



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-01

May 17, 2000

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Subject: Specifications for the Quality Assurance for Independent Listing

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This memorandum specifies the quality assurance tasks to be completed during listing of addresses for the A.C.E.. There are 5 checks to be completed for each ILB in the field office, with dependent review of books in the field whenever any of these 5 checks fails. Regardless of the outcome of each check, all 5 are to be completed for each book. The result of each check should be recorded on the ILB cover using the codes:

blank	not done yet
0	passed
1	failed
2	not applicable
3	supervisor override, don't send to field just because of this check

The 5 checks are as follows:

1. HU Count Comparison

This check will look for clusters with many more or many fewer addresses than were contained in the MAF, assuming that clusters for which the lister listed the wrong block will be likely to fail this check. As an ILB is checked in, the count of HUs for the cluster

will be entered into the A.C.E. 2000, and the count will automatically be compared to the MAF count. If the ILB count is less than N1 percent or more than N2 percent of the MAF count, the book will fail this check. The A.C.E. 2000 will record the result of this check and display it. The check in clerk will write the result on the cover of the ILB in Section 3 - QUALITY ASSURANCE in item 1. HU count comparison code.

N1 and N2 will start out as 90 and 120, respectively, but should be variables in the A.C.E. 2000 in case some unforeseen problem forces a change during listing.

Failure on this check can be overridden by the supervisor when local knowledge indicates that the census counts are wrong, such as in a high growth area.

2. Office Edit

Each ILB will be checked for completeness and accuracy as follows:

Section 4 city style addresses must have block number, house number, street name, map spot number, and type of basic address

Section 4 non-city style addresses must have block number, map spot number, householder name (when applicable), physical location description (when applicable), and type of basic address.

Section 5 apartments must have map spot numbers and unit designations and the basic items from Section 4 must be transcribed exactly to Section 5.

Section 6 trailers must have map spot number and house or lot number and the basic items from Section 4 must be transcribed exactly to Section 6.

The above requirements may not apply completely to future construction listings.

In addition to the basic required items, skip instructions must be checked and any items reached by skipping correctly must be filled.

There are several specific checks that must be made also:

Number of units listed in Section 5 must agree with the entry in Section 4, item 16.

Street names must be entered consistently for all HUs from the same block face.

Very long street names must be reduced to 35 characters, consistently for the whole block face. Very long location descriptions must be truncated to 50

characters. If either of these items is too long, it will be truncated during keying and the last part of the item will not be available to the interviewers during person interviews. It will be up to the editors to find a way to shorten overlong entries in such a way that the interviewers will still be able to find the units and matchers will still be able to match them to the census.

There is no need for supervisor override on a cluster that fails this check but it can be allowed for in the A.C.E. 2000 in case a need arises..

3. Respondent Check

This check will look for clusters for which the lister is failing to make contact with households to determine the number of HUs there are in a structure (items 13 and 14, Section 4 - LISTING PAGE), by falsifying the name and phone number in item 17 in Section 4. A sample of listings will be contacted to verify that the lister's contacts actually took place.

For each book, the checker will draw the next available random number, N3, from the random number table. Counting through the listings in Section 4, the checker stops at the N3rd listing. If that listing does not have a name and phone number in item 17, the checker goes to the next listing (and so on, until finding a name and phone number). The checker calls the number. If there is no answer, the checker goes on to the next listing with a name and number. If the line is disconnected, or not a valid phone number, the case counts as one falsification. If there is an answer, and the checker is speaking to the original respondent, the checker will ask if the person remembers being contacted recently (see attachment B, worksheet). If the person was contacted, the case counts as one good listing. If the person was not contacted, the case will count as one falsification. If the original respondent is not available, the checker will ask the person if the original respondent was contacted. If the person says yes, the case will count as one good listing. If the person says no, or does not know, the case will count as a noninterview and the checker will go on to the next listing as if this had been a ring-no answer case. After successfully reaching a classification of good listing or falsification for a case, the checker will start counting listings again until reaching the N3+N4th listing, where the checker will repeat the verification process. If the 2 cases successfully checked yield 2 good listings or 2 falsifications, the check is done. If the 2 cases yield 1 of each, the N3+(2xN4)th case will be checked. This should break the tie. A result of 2 good listings means this ILB passed the check, and a result of 2 falsifications means this ILB failed the check. N3 can be determined from attachment B Worksheet and will be based on the number of listings with names and phone numbers. N4 will be 10. The result and the record of calls are to be recorded on the cover of the ILB in Section 3, item 3. Special instructions will apply to clusters with 10 or fewer listings with names and phone numbers, as shown in Attachment C, Start With Table, as the start with - take every approach to choosing cases to call is impractical for these clusters.

The category of noninterview for this check includes ring-no answer, refusal, language barrier, and answering machine. The category of falsification includes cases where the original respondent reports never being contacted and disconnected phone numbers, nonworking phone numbers and calls for which the answerer does not know the original respondent.

Clusters with 0 or 1 listings with names and phone numbers will not have this check done and the respondent check code will be not applicable. If a cluster has only a few names and phone numbers, and the check cannot be completed in one session because of noninterviews, then the check will be recorded as not applicable. Failure on this check can be overridden by the supervisor if it is felt that respondents who claimed to not have been contacted are not being truthful (such as a confused respondent).

4. Address Range Check

This check looks for a cluster for which the lister listed the wrong block, assuming that the listed house numbers for a (wrong) block face will not correspond to the range of house numbers in the MAF for the correct block face. This check is not done for rural clusters that do not have house number street name type addresses. The checker will check that for each block face in the cluster, at least one of the house numbers listed falls within the range of valid house numbers in the MAF for that block face. If any block face that has HUs listed on it has no house numbers falling in the correct range, the ILB fails this check. The results are to be recorded on the ILB cover in Section 3, item 4.

Failure on this check can be overridden by the supervisor if some local knowledge indicates that the MAF is wrong.

5. Percent By Observation

This check will look for clusters for which the lister is failing to make contact with households to determine the number of HUs there are in a structure (items 13 and 14, Section 4 - LISTING PAGE), by recording that the listing was done by observation in item 17 in Section 4. The checker will determine the number of listings done by observation by counting the map spot numbers in Section 4 with item 17 recorded as Observation, minus those MSNs that could only be listed by observation, such as seasonal dwellings that are closed for the season (with no proxy available) or security buildings with no access to a knowledgeable person. This subtraction depends on the discretion of the office checker and notes made by listers. If it's not clear whether to subtract some MSNs, they should not be subtracted. This count will also include listings that show a respondent name but no phone number in item 17, since they did not have a chance to influence the results of QA check number 3 - respondent check. If there are too many of these, the cluster will fail the % done by observation check. For clusters with 10 or less

eligible map spot numbers. if 2 or less were done by observation, the check becomes not applicable. Multiunit structures and mobile home parks each count as 1 MSN. This count is the numerator for calculating the percent done by observation. The denominator for the calculation is the total number of HUs, from the ILB cover, Section 1, item 9. The denominator counts apartments and trailers individually to make this check conservative. The checker will calculate the percent done by observation by $(\text{numerator}/\text{denominator}) \times 100$. If the percent is greater than 20% the ILB fails this check. The numerator, percent, and result (1 for pass, 2 for fail) are to be recorded on the cover of the ILB, Section 3, item 5.

If local knowledge or notes from the lister indicate that many of the units could only be listed by observation, even though the checker counted a smaller number of such, causing the ILB to fail this check, the failure can be overridden by the supervisor.

To assist the office person conducting the QA checks, a worksheet is available for use during checks number 3 and 5, as shown in attachment B. The checker needs to count things in the ILB for each check and the worksheet will provide a place to keep track of what they are doing. The worksheet does not need to be saved, or shipped anywhere, or data captured in any way.

After all 5 checks are completed, item 6 is to be completed on the ILB cover, Section 3. If any check has failed, a field QA check is required. This will be a dependent review of the whole ILB, regardless of which checks failed, with corrections made as necessary. Before the ILB is returned from the field, the field checker will record the corrections made to each block in Section 3, items 8-12.

The results of this process, as recorded in Section 3 of the ILB cover, are to be entered into the A.C.E. 2000 before the book is shipped to NPC for keying. A report summarizing the current standings of QA for all books is to be available on demand during listing to the A.C.E. supervisor in the field office and to headquarters FLD staff (see Attachment E)

Attachments:

- A. copy of Section 3
- B. worksheet for respondent check questions and % by observation
- C. Start With table for respondent check
- D. random number tables for respondent check
- E. QA report format

cc: DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
Accuracy and Coverage Evaluation Implementation Team
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Section 3 - QUALITY ASSURANCE											
1. HU count comparison code: _____				2. Edit code: _____		Edited by: _____					
3a. Respondent check: Telephone call											
Map spot		Date	Time	Results		Map spot		Date	Time	Results	
			a.m.	C	NC				a.m.	C	NC
			p.m.						p.m.		
			a.m.						a.m.		
			p.m.						p.m.		
			a.m.						a.m.		
			p.m.						p.m.		
3b. Respondent check code: _____ Checked by: _____						5b. % by obs. code: _____ Checked by: _____					
4. House No. range check code: _____ Checked by: _____						6. Is QA field check required? <input type="checkbox"/> Yes <input type="checkbox"/> No			7. Date QA field check completed: _____		
5a. No. of listings done by obs: _____ % by obs: _____									Checker: _____ Code: _____		
Field check results:											Total
8. Block number											
9. Correct block listed? Circle Y or N		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	
10. No. of addresses added											
11. No. of addresses deleted											
12. No. of addresses corrected											

Attachment B Worksheet for QA Checks 3 and 5 - Cluster _____

Counts from the ILB:

a. count of listings in Section 4 with respondent name and phone number in Item 17 _____

b. count of listings in Section 4 with respondent name but no phone number, or checked "by observation" in Item 17 _____

c. count of listings in b. that could only be listed by observation (seasonal, secure building, etc.) _____

d. Start With number from Attachment C, based on count a. above: _____

Guideline for Respondent Check Calls:

Hello, I am _____ from the U.S. Bureau of the Census.

May I speak to _____ (respondent name from Item 17)?

Recently, Census Bureau employees were in your area listing addresses as part of the 2000 Census. To check on the quality of our work, we are contacting some of these households.

(if speaking to original respondent):

Were you recently contacted by a Census Bureau employee who was listing addresses?

(if original respondent is not available):

Do you know if _____ was recently contacted by a Census Bureau employee who was listing addresses?

That's all I needed to ask. Thank you very much.

Calculation of % by Observation Code:

e. calculate (count b. - count c.) _____

f. total number of HUs listed in ILB (from Section 1, Item 9): _____

g. calculate % by observation (e. / f.) x 100 _____

count a.	Start With	Take Every
if count a. (addresses in Section 4 with respondent name and phone number) is in the interval:	choose a random number to start selecting addresses to call by taking the next available random number between 1 and this number from table D-1	use this number as the Take Every number for choosing the next case to call
1 - 10	(see small clusters section)	(see small clusters section)
11 - 20	6	10
21 - 30	10	10
31 - 40	12	10
41 - 50	16	10
51 - 60	20	10
61 - 70	23	10
71 - 80	26	10
81 - 90	30	10
91 - 100	33	10
100 - more	33	10
	(if the next available random number is too large, go to the next number)	(if you reach the end of the book before reaching the next case to call, continue counting at the front of the book)

Small clusters:

Only 20% of the ILBs that have 10 or fewer listings with names and phone numbers (count a. from worksheet) will be checked. Get the next available random number from Table D-2. If this number is a 0, this ILB will not be checked. If the number is a 1, this book will be checked. Start at the front of the ILB and call the first listing that has a name and phone number. Continue with the next listing that has a name and number until you can determine pass or fail for this check. If you run out of listings with names and phone numbers before a conclusion, record this check as not applicable.

Attachment D**Random Number Tables**

Table D-1 will be random numbers between 1 and 33, uniformly distributed.

Table D-1 will be random 0's and 1's, distributed as 80% 0's and 20% 1's.

Table D-1
(numbers from 1 to 33)

6	16	14	18	17	8	1	32	18	6	3	25
4	16	20	28	15	1	26	24	5	22	25	12
31	27	32	10	19	13	29	32	8	4	30	26
4	13	14	6	5	10	13	14	12	29	29	33
20	31	30	31	10	17	9	13	16	1	27	1
28	31	17	17	23	12	30	13	25	21	12	29
13	15	9	20	33	33	11	20	26	29	30	15
28	32	1	7	5	7	23	9	24	29	19	26
18	7	4	28	24	12	26	28	21	11	5	24
12	17	5	9	13	32	15	19	12	1	29	20
1	29	2	5	22	31	1	2	33	4	16	5
12	26	18	20	13	11	8	21	33	33	19	31
11	23	1	33	6	11	13	19	26	18	10	18
25	23	5	14	11	31	2	32	10	1	27	27
16	3	2	26	9	10	1	2	16	6	24	4
30	29	28	11	19	7	24	7	19	28	29	4
19	30	23	30	9	22	11	18	14	27	17	19
30	14	19	20	9	20	25	7	30	15	23	31
6	26	22	17	17	15	5	23	21	27	20	26
9	13	30	5	1	16	12	12	33	26	24	13
15	21	2	10	7	20	19	26	25	28	9	8
18	19	14	29	18	12	2	26	7	22	32	17
1	17	13	30	23	16	4	14	15	29	24	23
5	32	11	13	8	2	30	27	25	15	20	7
26	16	9	14	14	3	27	19	8	29	2	4
30	4	8	21	8	7	3	24	9	11	31	4
13	2	21	12	23	9	21	22	15	12	20	2
3	15	8	6	2	19	33	4	24	4	26	2
6	16	20	33	10	17	22	12	5	4	13	12
33	11	33	5	3	13	33	8	33	15	29	27
21	25	4	19	30	22	30	21	6	15	15	23
16	33	4	2	30	11	26	18	11	27	2	28
9	16	20	25	9	19	16	9	30	16	7	16
26	26	4	6	12	33	19	23	28	17	5	30
25	28	4	4	16	3	23	26	3	7	5	28
21	5	3	19	26	4	2	9	27	23	24	9
7	9	32	19	11	31	5	20	21	31	11	16
8	2	29	7	30	14	22	7	19	19	25	33
29	14	2	6	8	20	17	16	32	33	16	23
32	12	26	1	20	12	22	9	4	3	23	33

29	6	14	27	1	26	7	30	3	32	33	32
27	27	18	10	30	20	16	2	5	6	15	16
18	4	22	29	8	10	10	31	1	12	31	23
16	9	27	32	4	25	31	4	24	21	6	32
11	21	13	22	24	3	27	32	16	5	12	11
26	4	16	32	12	1	20	15	9	22	27	26
23	20	27	30	7	28	14	1	27	25	10	30
18	19	24	17	2	24	6	2	26	32	18	32
2	23	9	4	6	10	15	18	17	21	30	21
24	8	33	20	6	11	20	18	27	7	13	33
5	32	23	31	15	13	2	12	6	24	10	27
18	22	25	30	6	32	18	33	32	17	4	25
19	25	11	13	6	6	8	11	10	20	5	18
8	15	10	31	8	23	13	30	24	32	29	18
18	19	27	6	4	19	25	21	14	1	26	5
3	17	3	20	33	10	23	30	3	17	4	18
15	1	14	15	15	26	9	4	33	21	23	4
26	7	11	29	28	15	1	30	23	6	31	31
17	33	18	9	29	29	1	22	27	27	15	17
7	24	11	18	30	6	10	4	9	26	19	4
20	18	5	12	8	13	32	1	32	20	21	16
6	16	16	32	20	25	17	9	6	22	11	17
32	5	6	23	7	22	3	5	19	20	25	3
32	14	10	23	2	7	4	2	25	5	14	23
5	17	6	26	28	5	23	19	18	13	6	29
28	32	3	30	11	16	29	33	6	15	12	16
9	4	18	5	4	30	33	31	14	10	31	1
16	20	31	31	30	2	24	26	22	5	25	29
10	33	26	13	8	12	7	3	5	24	2	33
10	28	20	1	25	28	8	7	16	9	11	32
18	24	3	14	25	4	28	1	1	8	1	9
26	19	20	21	14	16	26	20	32	14	24	33
8	22	28	18	13	31	2	20	14	8	21	21
33	25	27	12	10	24	22	24	10	10	20	3
18	14	21	12	16	2	5	16	17	20	17	24
4	27	23	8	13	13	23	24	18	7	23	33
2	22	10	9	4	10	22	31	8	15	25	30
27	4	29	16	19	12	27	6	27	15	33	18
3	3	11	1	7	13	27	23	2	20	32	1
12	25	19	26	2	4	14	20	5	6	16	16

33	19	33	6	15	17	8	30	12	15	27	31
13	5	26	28	10	9	17	19	20	33	10	32
8	9	26	23	10	13	21	11	23	33	12	32
32	1	1	27	7	22	33	8	32	6	29	7
23	18	3	14	6	20	9	5	28	9	2	18
25	27	25	4	8	26	32	14	18	24	24	21
6	18	23	32	22	1	11	21	8	29	31	21
14	33	18	7	18	33	14	7	30	8	21	26
18	23	10	4	23	11	9	21	22	29	7	12
33	32	2	3	22	8	3	26	32	31	33	8
1	13	21	6	10	28	22	25	9	9	7	20
14	4	26	28	15	17	26	27	14	4	10	21
22	8	29	9	6	30	31	29	13	22	25	9
16	2	20	21	2	8	8	6	16	21	3	1
22	8	28	29	27	33	3	32	8	31	25	33
2	1	28	19	32	10	22	20	29	8	3	16
31	26	5	1	12	33	16	10	10	10	28	2
11	1	20	27	28	13	24	9	7	29	13	21
21	6	19	20	27	4	25	11	14	22	24	30
5	1	13	22	27	15	3	5	29	3	5	30
20	6	19	10	11	16	14	24	6	21	6	13
5	6	13	1	33	22	11	7	20	12	8	28
14	8	13	33	20	19	21	18	19	26	20	2
16	20	7	31	21	10	9	21	2	22	11	23
21	32	18	31	1	12	17	26	22	23	7	19
13	26	19	3	15	13	22	13	25	24	13	19
10	24	17	4	25	31	1	11	19	13	13	33
14	6	20	13	6	30	11	31	13	21	14	8
15	1	14	19	26	15	23	13	29	10	10	14
7	16	20	11	11	27	13	14	17	1	26	25
33	9	12	23	7	15	12	30	11	11	12	13
26	28	23	11	11	10	26	29	23	8	28	25
27	7	8	28	2	33	10	9	19	19	15	27
31	32	1	33	23	16	17	15	16	17	32	13
22	30	18	32	27	20	13	16	7	25	27	2
28	24	13	22	18	4	16	24	4	29	12	11
6	15	27	31	17	30	9	29	7	33	29	23
32	29	32	23	3	20	28	12	21	26	2	17
12	32	26	25	18	24	9	33	5	13	19	7
14	12	13	5	11	25	8	14	24	29	31	30

31	6	17	1	25	15	22	33	28	2	14	22
18	19	8	25	18	10	25	27	10	4	20	20
10	19	1	27	28	15	33	23	21	21	26	28
16	30	24	18	15	3	18	18	21	4	31	3
28	29	19.	31	24	16	13	22	4	15	8	27
11	13	32	24	29	16	14	21	20	6	19	24
22	30	10	13	9	17	9	23	6	30	20	10
32	33	3	15	25	14	24	28	19	29	14	24
10	28	31	2	19	2	31	5	22	30	11	5
17	12	24	1	16	26	23	22	31	20	9	18
16	24	9	6	1	1	25	10	11	28	11	24
13	16	7	24	32	16	3	11	24	8	29	1
15	19	6	18	21	14	15	14	5	1	12	33
33	29	10	23	22	17	6	24	13	7	9	12
3	17	21	3	6	24	24	20	25	10	11	1
13	22	28	2	18	26	20	7	3	11	9	3
6	20	14	6	32	28	28	33	7	30	15	28
8	28	1	14	19	31	30	24	6	32	23	11
4	7	9	24	3	33	18	9	5	26	21	18
17	23	26	21	30	28	17	26	21	6	16	29
10	4	19	12	1	2	12	31	13	32	22	11
22	11	1	7	28	1	26	9	3	27	20	27
14	3	14	9	6	9	8	2	18	16	26	28
8	20	19	15	2	6	15	18	32	19	2	3
28	21	4	6	29	30	28	7	9	24	12	21
33	7	30	19	18	27	14	13	8	22	9	8
16	17	1	1	18	9	30	12	7	19	15	10
8	14	21	20	21	24	31	28	27	18	16	3
26	32	26	4	12	1	25	8	6	23	12	4
26	7	31	33	10	26	24	4	10	9	29	6
9	8	33	21	22	16	13	9	3	3	28	29
19	15	22	22	27	27	19	28	28	6	29	14
12	3	11	11	20	25	7	20	32	13	3	15
22	15	9	26	7	28	30	29	2	21	7	4
21	13	9	21	27	8	19	31	29	17	22	2
4	23	32	26	19	1	3	3	17	23	4	10
28	31	1	19	17	4	3	22	3	30	21	30
29	23	4	22	6	11	22	4	27	22	28	15
21	31	18	14	7	21	1	9	30	18	1	26
8	26	5	23	16	2	28	25	3	14	18	6

16	5	25	8	10	28	17	33	14	13	29	2
7	12	26	4	33	5	9	14	19	3	31	25
11	25	6	4	16	4	5	10	32	23	5	17
7	16	2	5	10	8	21	17	29	5	5	24
8	25	27	30	33	10	16	31	15	8	2	9
13	33	7	15	10	26	32	25	12	4	15	1
17	24	24	13	25	22	9	10	3	29	3	28
8	25	31	6	33	15	28	4	20	14	5	9
14	5	30	30	29	16	6	18	18	27	30	21
3	22	25	12	30	33	28	26	27	17	12	21
2	2	21	2	10	15	4	5	3	16	6	30
12	28	33	4	27	19	26	29	13	6	4	13
10	20	30	8	21	23	18	7	11	12	18	26
12	27	22	2	15	9	9	25	23	29	18	19
9	28	32	24	25	17	32	2	16	30	2	26

0	1	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	0	0
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0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	1	1	0	0	0	0	0	1
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0	1	0	0	0	0	0	0	0	1	0	0
0	1	0	1	0	0	1	0	0	0	0	0
0	0	0	0	0	0	1	1	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	1	1	0	0

Attachment E (later)



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-02

February 4, 2000

MEMORANDUM FOR: Charisse Jones
Leader, A.C.E. Computer Processing Team

and

Marjorie Martinez
Leader, A.C.E. Clerical Processing Team

Through: *DM for* Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: Specifications for Quality Assurance for Independent Listing Book
Keying and Editing Operations

Prepared by: Carol Corby and Rosemary Byrne

This memorandum documents the plan for quality assurance for the keying and editing of the Independent Listing Books (ILB's) for the Accuracy and Coverage Evaluation (A.C.E) as worked out by Dan Burkhead, Michael Wharton, and Carol Corby in preparation for the 1998 Dress Rehearsal.

Due to the need for very accurate address listings for the A.C.E., the keying and editing of the ILB's each need 100% verification. After verification keying or edit corrections, the differences lists need error classification, and the clusters (workunit) can pass quality control regardless of the error rates. Given this, it will not be necessary for keyers to review and correct their workunits after error classification. For purposes of giving feedback to keyers for quality improvement, supervisors can review the difference lists with the keyers.

The individual steps in the keying and editing operation are:

1. Keyer keys all the ILB's for a cluster (into a file denoted .key file).

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2. Verifier keys all the ILB's for the cluster (into a file denoted .ver file).
3. Differences in individual fields between the keyed files are printed out for review. If there are no differences, the cluster passes keying quality control and is ready for step 5.
4. Classifier codes each difference as keyer error, verifier error, or both in error and in most cases the cluster automatically passes quality control regardless of the error rates. However, in the case where both are in error this is known as a "classification code 11". The cluster is automatically reset to the verifier stage and the verifier rekeys the fields in error. When this is done, the cluster goes to the classifier again. In very rare cases the incidence of both keyer and verifier error is so extensive that the cluster is reset to be completely keyed over again by both the keyer and verifier. The cluster does not pass quality control until all of the keying errors are corrected.
5. The corrected file is created (denoted .fin file) using keyer's version of a field coded as verifier's error, and verifier's version of a field coded as keyer error or both in error.
6. The .fin file goes through a computer edit, and the Edit Failure Page is printed out. If there are no edit failures and no keying differences coded both in error, the cluster is finished with keying and editing.
7. The Edit Failure Page and the ILB's for the cluster go to the Census Coverage Measurement Unit (A.C.E. Analysts) in NPC for corrections, which they make in the ILB's. This includes corrections for edit failures and any other corrections they determine are needed.
8. The .key and .ver files are both replaced with corrected versions based on the .fin file.
9. A keyer (not necessarily the same one as in step 1) corrects the new .key file based on the ILB corrections.
10. A verifier (also not the same one) corrects the new .ver file.
11. The differences between the new .key and .ver files are printed out.
12. A classifier codes all the differences as keyer error, verifier error, or both and the cluster passes quality control automatically, unless a classification code 11 case occurs. If it does, the same process outlined in step 4 above is followed.
13. A new .fin file is created, same as step 5.
14. The .fin file is sent through the edit again.
15. If there are no edit failures and there were no differences coded as both keyer and verifier error, the cluster is finished. If there are edit failures or there were errors coded as both keyer and verifier error, steps 7 through 14 are repeated, as many times as needed, with the addition that a listing of the whole cluster is printed and corrections are annotated on that listing, rather than on the ILB's (or on both, if needed), so that the keyer, verifier, and classifier can easily see what corrections to make.

While it appears that steps 7 to 14 could be repeated an unlimited number of times for a cluster, we expect that most clusters will be finished after step 6, with no edit failures, or after step 14, with no new edit failures, after one round of edit corrections. Only the rare cluster with

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extensive edit corrections (not necessarily with many edit failures) is likely to need two or more passes through steps 7 to 14.

This combination of 100% verification of keying and 100% verification of edit corrections will ensure the highest quality for address listing capture for the A.C.E. Any questions should be directed to Carol Corby on ext. 4889 or Rosemary Byrne on ext. 8021.

cc: DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
A.C.E. Implementation Team
Statistical Design Team Leaders
David Whitford
Magda Ramos



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-03

May 17, 2000

Memorandum for : Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: Census 2000 Quality Assurance Plan for the A.C.E. CAPI Person Interview

A. Purpose of Quality Assurance (QA)

The A.C.E. Computer Assisted Person Interview (CAPI) QA program is designed to monitor and assess performance of interviewers conducting A.C.E. CAPI person interviews. The QA program has a broad objective of monitoring the quality of interviewing. However, the QA program focuses on the detection of possibly falsified interviews.

B. The QA Interview

The QA interview is conducted using the CAPI instrument. Data from the original A.C.E. interview, including respondent name, address, telephone number and outcome code are loaded into the QA instrument.

The QA interview is designed to determine if interviewer falsification is suspected. An interview is considered falsified when a Field Representative (FR) has made up the responses without actually talking to a respondent. If falsification is suspected, the case is sent for supervisory review and the appropriate action is taken. QA noninterviews are also sent to supervisory review.

QA interviews may be conducted by telephone or personal visit. If a phone number is obtained during the original CAPI interview, a telephone interview will be attempted before assigning the case for a personal visit. The phone interviews will be conducted from the Regional Office whenever possible.

There are four types of A.C.E. person interview outcomes for which QA interviews are

conducted. These are: complete interview - outcome code 201, partially complete interview - outcome code 203, vacant - outcome code 326, and not a housing unit on census day - outcome code 333.

1. QA Interview Outcome

The QA CAPI instrument assigns an outcome code for the QA interview. Possible QA interview outcome codes are: insufficient partial interview - 202, complete interview - 201, language problem - 213, no respondent (personal visit) - 216, no respondent (telephone) - 217, and refusal - 218. The QA outcome code does not indicate whether or not falsification is suspected.

2. QA Action Code

The QA CAPI instrument also assigns an action code for the QA interview. Possible QA action codes are: opened case - 01 (only used with outcome 202), complete interview, no falsification suspected - 10, complete interview, falsification suspected - 11, complete QA interview, needs more information in the person interview section - 12, noninterview - 21. The cases with action code of 11 or 21 are sent to supervisory review.

C. Cases Randomly Pre-Selected for QA

The A.C.E. CAPI QA program will include both a random and a targeted review of CAPI cases. The random review will involve a 5% systematic sample of cases that will be pre-selected (selected before any FR assignments are made). "Targeting" refers to identifying cases that are possible falsified and sending such cases for a QA interview.

D. Cases Targeted For QA

The targeted review will involve a QA supervisor selecting cases for a QA interview based on QA targeting reports and QA results for each FR. These reports will be generated daily based on the work transmitted to date. The targeting reports contain statistics believed to be good indicators of interviewer problems. The goal in targeting cases for QA is to make the QA effort more efficient and effective in identifying falsification.

Four targeting reports will be generated to assist the QA supervisors in targeting suspicious cases for QA interviews. Brief purpose statements for the reports are below.

1. Respondent's Name Report

This report enables the QA supervisor to browse the entries for respondent names entered by each FR. The aim is to look for possible falsification, such as names of famous characters/people or multiple respondents with the same name.

2. FR Outlier Reports

This report identifies FR outliers for a number of variables possibly related to falsification and data quality. For some variables tolerance levels are predetermined. For others, the tolerance level depends on the average for the geographic area. Supervisors are to use this report to identify interviewers who maybe falsifying data or not following correct procedures. The outlier variables include: percent of cases with no phone number, percent of cases with missing outmover data, percent vacant, percent proxy, percent partial interviews, number of cases completed after regular hours (between 10pm and 8am) and days with more than 13 interviews.

3. Not Enough QA Cases Report

This report allows supervisors to look at the status of QA assignments for each FR. From this report a supervisor might notice that a FR had an insufficient percent of cases in QA and decide to assign cases to QA for the FR.

4. Add QA Cases Screen

If a supervisor identifies a potential problem with an interviewer's work in one of the other reports, (s)he would use this screen to assign specific cases to QA.

Any questions should be directed to Rosemary Byrne on ext. 8021 or Carol Corby on ext. 4889

cc. DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
A.C.E. Implementation Team
Statistical Design Team Leaders
David Whitford
Magda Ramos



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-04

May 17, 2000

Memorandum for : Charisse Jones
Leader, A.C.E. Computer Processing Team

Through: *dwf* Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: Specifications for the Replacement of Person Interviews Due to Suspected Falsification

This memorandum documents the circumstances under which the original data collected during a person interview for the A.C.E. is to be replaced with the new data collected during the Quality Assurance interview. Replacement is to be done when the QA interview variable QA_FALSE_FLAG is 6, 7, or 8. This QA interview replaces the original interview for the case id. When QA_FALSE_FLAG is any other value, no replacement is to be done.

Any questions should be directed to Rosemary Byrne on ext. 8021 or Carol Corby on ext. 4889.

cc: DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
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UNITED STATES DEPARTMENT OF COMMERCE
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Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-05

February 4, 2000

Memorandum for : Charisse Jones
Leader, A.C.E. Computer Processing Team

Through: *awf* Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: Census 2000 Specifications for Preselected A.C.E. CAPI QA cases

This document provides guidelines for the preselection of A.C.E. CAPI person interview cases for QA interviewing. Cases may be either targeted for QA or preselected for QA. This specification for targeting QA cases is provided in the DSSD Census 2000 Procedures and Operations Memorandum Series, S-QA-06. Targeting refers to the selection of A.C.E. person interview cases for QA interview based on reports detailing a field representative's (FR) work. Those cases preselected for QA will be used as a random quality check of a FR's work.

Before the A.C.E. person interviews take place, cases will be randomly preselected for QA interviewing. The desire is to select a 5 percent random sample of person interview cases. To accomplish this the computer processing team should select a 1 in 20 systematic sample of the person interview cases. A random number between 1 and 20 should be generated to select the first case and every twentieth record after that should be selected. There will be no stratification by cluster, nor will urban/rural demographics be considered. By selecting a 1 in 20 sample, we expect that at least one case per cluster will be chosen, except in small clusters. A.C.E. person interview outcome codes will not be considered in this preselection.

cc. DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
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UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-09

May 17, 2000

MEMORANDUM FOR: Diane F. Barrett
Leader, A.C.E. Housing Unit Team

Through: *all for* Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: MaRCS Specifications for Quality Assurance (QA) for Housing Unit Matching

Prepared by: Carol Corby and Rosemary Byrne

1. Introduction

This memorandum documents the plan for quality assurance for the clerical matching of housing units. It contains procedures for conducting a quality check of work done by each clerk and technician (tech). This is accomplished by dependent rework of samples of each person's work, which will catch random matching errors.

The before followup (BFU) plan is primarily aimed at finding errors that will prevent an address from going to followup, when, if coded correctly, it should go to followup. The after followup (AFU) plan is aimed at finding errors that will cause an address to be incorrectly classified as correctly or erroneously enumerated, or will cause an address to incorrectly drop out of the P-sample.

2. Overview of the Before Followup Matching QA Plan

As a matcher (clerk, tech, or analyst) finishes working on a cluster, a closeout edit is performed that will check for certain errors. The matcher must pass all the edits before being allowed to close out the cluster. This prevents simple errors, such as an invalid codes or missing codes, from getting into the data.

Each clerk will have his work checked for QA by having some of his clusters dependently rematched by the techs. At the beginning of BFU matching, all clusters completed by the

clerk will be checked for QA, until the volume of completed work includes at least N1 coded records. After these clusters have been rematched by the techs and, as needed, by the analysts, it will be automatically decided whether to switch the clerk to sample QA, based on changes made to the clerk's match codes by the techs and analysts. Once in sample QA, only one in N2 clusters from the clerk's completed work will be checked. Each time the volume of coded records in the sample clusters reaches N3, the sampling decision will be revisited. Similarly (using N4, N5, and N6) the techs will have their work checked for QA. Most techs will automatically start out in sample QA and some clerks may start out in sample QA, depending on the training results. The values of the Ns will be described later in this document.

As a clerk (BFC stage) closes out a cluster, if the clerk is scheduled to be checked for QA, the cluster will be assigned for tech review (BFT stage). Also, the cluster will be checked for certain situations called "must do" criteria, as in "the tech must do this cluster," and work flags will be put on records that must be coded by the tech. If any of these criteria are met, the cluster will be assigned to a tech for review. If the tech was assigned the cluster for QA check, the tech reviews the cluster completely according to all tech matching rules, and must satisfy any must do work flags. If the tech was assigned the cluster as a must do cluster only, the tech will only review the records associated with the must do criteria, plus any records they lead to, but will not do a complete QA check.

If the cluster was matched by a tech for QA check on the clerk, and the tech is scheduled for QA review, the cluster will be assigned to an analyst. Also, the cluster will be checked for must do criteria for the analyst stage. When the analyst gets the cluster, a screen will display whether the cluster was assigned for QA check on the tech, or for must do criteria, or both, and a summary of the match codes in the cluster. The analyst will review the whole cluster only if it was assigned for QA check.

As QA clusters (100% or sample) matched by a particular clerk finish the tech stage and the analyst stage (if it was needed), the records to which the clerk assigned a match code are counted. As the counter reaches or exceeds the required volume of records worked, the history of matching in the QA clusters contributing to that count will be compiled. This means that the clerk's codes will be compared to the final BFU codes and certain differences between them will be counted. Based on the count of differences expressed as a percent of the total count of coded records in the QA clusters, a decision will be made automatically to keep the clerk in 100% QA, switch to sample QA, or switch back to 100% QA. The percent of differences in the QA clusters will be compared to an upper limit shown in the next section. If the percent of differences is below the cutoff, the matcher will switch to sample QA, or stay in sample QA, as appropriate. If the cutoff is exceeded, the matcher will stay in or go back to 100% QA. The list of differences to be counted and the upper limits appear in the next section. The full details of differences between codes is in Attachment A. The same scheme will be followed for QA on the techs, where differences between the tech codes (blanks included) and analyst codes will

be counted.

In addition to automatic decisions to switch from and to sample QA, an manual mechanism for switching a particular clerk or tech must be provided. Also, the upper limits on percents of differences must be adjustable (for all clerks or techs at once). This will allow us to adjust to unforeseen circumstances during production.

The sampling rate used to determine whether a cluster is in QA sample for a clerk or, separately for a tech, must be recorded for each cluster. After production is done, error rates will be estimated, and the sampling rates applied to each cluster (or lack of sampling rate for a 100% QA cluster) will be needed in the estimates.

3. After Followup Matching QA - Overview

The AFU QA plan is the same as the BFU QA plan, with modifications in the must do criteria and which differences between codes should be counted.

4. Before Followup Matching QA - Details

The following table lists the counts to be used for QA plan described in the BFU section. N1 is the volume of coded records that must be reached by a clerk in 100% QA before that clerk's work is reviewed. The cutoff is the upper limit on the differences in the work being reviewed. If the differences exceed the cutoff, the clerk will stay in 100% QA, or if already in sampling QA, will return to 100% QA. N2 is the take every to be used to determine which clusters are in the QA sample. After the decision to go to sample QA is made, clusters completed by the clerk will be counted, and the N2nd cluster will be scheduled for QA check by a tech. Notice that clusters completed by the clerk between when the clerk's work reached N1 records and when the decision to go to sample QA was made will all be in 100% QA, and coded records from these clusters will not be counted toward any N. The same scheme, with different numbers, is to be used for QA on the techs. All of these numbers must be adjustable during production.

	coded records in 100% QA	sampling rate 1 in N	coded records in sample QA	cutoff for automatic switch to sample QA
BFC stage clerk	200 (N1)	3 (N2)	50 (N3)	4%
BFT stage tech	200 (N4)	10 (N5)	50 (N6)	4%

The must do criteria for clusters completed by clerks and ready for tech stage include:

presence of RV codes in cluster
 presence of followup notes on any records
 address changes

The must do criteria for clusters completed by techs and ready for analyst stage include:

presence of RV codes (assigned by tech) in cluster
 ZI codes
 ZM codes
 50% or more of clerk coded records changed by tech

The differences between clerk codes and tech (or analyst) codes (BFC to BFT or BFA), and between tech and analyst (BFT to BFA), to be counted in the QA scheme are shown below. It should be noted that when a clerk makes an error by matching 2 records that should not be, the final result is 2 records that should only be counted once, since one action was taken by the clerk. This can be accomplished by counting these cases only when looking at P sample records and not when counting E sample records. This may make the list look like something is missing. Also, when a change is made by the tech or analyst concerning which address is the duplicate and which is the primary during duplicate search, we do not consider this an error on the part of the clerk, and do not count it. The list also shows the differences to count for QA on the techs.

A.C.E. records

BFC Match Code (clerk code)	HICODE (between BFT, BFA)	BFT Match Code (tech)	HICODE (BFA)
M	M(new link), P, NI, ZM	M	M(new link), P, NI, ZI, ZM
P	ZM	P	ZI, ZM
NI	M, ZM, DI*	NI	M, ZI, ZM, DI*
DI	M, P, NI, ZM	DI	M, P, NI, ZI, ZM
		ZI	M, P, NI, ZM, DI*
		ZM	M, P, NI, ZI, DI*
		BFT blank, BFC = M	M(new link), P, NI, ZI, ZM
		BFT blank, BFC = P	ZI, ZM
		BFT blank, BFC = NI	M, ZI, ZM, DI*
		BFT blank, BFC = DI	M, P, NI, ZI, ZM

* see Attachment A for details about the DI*, DE* counts

Census records

BFC Match Code (clerk code)	HICODE (between BFT, BFA)	BFT Match Code (tech)	HICODE (BFA)
NE	DE*	NE	DE*
DE	P, NE	DE	P, NE
		BFT blank, BFC = NE	DE*
		BFT blank, BFC = DE	P, NE

* see Attachment A for details about the DI*, DE* counts

5. After Followup Matching QA - Details

	coded records in 100% QA	sampling rate 1 in N	coded records in sample QA	cutoff for automatic switch to sample QA
AFC stage clerk	300 (N1)	3 (N2)	30 (N3)	4%
AFT stage tech	300 (N4)	10 (N5)	30 (N6)	4%

The must do criteria for clusters completed by clerks and ready for tech stage include:

presence of RV codes in cluster
80% of the ACE records are coded GI

The must do criteria for clusters completed by techs and ready for analyst stage include:

presence of RV codes (assigned by tech) in cluster
ZM (new in AFU) codes
50% or more of clerk coded records changed by tech

The differences between clerk codes and tech codes (AFC to AFA), and between tech and analyst (AFT to AFA), to be counted in the QA scheme is as follows:

A.C.E. records

AFC Match Code (clerk code)	HICODE (between AFT, AFA)	AFT Match Code (tech)	HICODE (AFA)
M	M(new link), CI, ZI, UI, GI, ZM, DI*	M	M(new link), CI, ZI, UI, GI, ZM, DI*
CI	M, ZI, GI, MU, ZM, DI*	CI	M, ZI, GI, MU, ZM, DI*
ZI	M, CI, UI, GI, MU, ZM, DI*	ZI	M, CI, UI, GI, MU, ZM, DI*
DI	M, CI, ZI, UI, GI, MU, ZM	DI	M, CI, ZI, UI, GI, MU, ZM
UI	M, ZI, GI, MU, ZM, DI*	UI	M, ZI, GI, MU, ZM, DI*
GI	M, CI, ZI, UI, MU, ZM, DI*	GI	M, CI, ZI, UI, MU, ZM, DI*
MU	CI, ZI, UI, GI, ZM, DI*	MU	CI, ZI, UI, GI, ZM, DI*
		ZM	M, CI, ZI, UI, GI, MU, DI*
		AFT blank, AFC filled	use the clerk counts table

* see Attachment A for details about the DI*, DE* counts

Census records

AFC Match Code (clerk code)	HICODE (between AFT, AFA)	AFT Match Code (tech)	HICODE (AFA)
M	DE*	M	DE*
CE	EE, GE, DE*	CE	EE, GE, DE*
EE	CE, UE, GE, DE*	EE	CE, UE, GE, DE*
DE	M, CE, EE, UE, GE, MU	DE	M, CE, EE, UE, GE, MU
UE	EE, GE, DE*	UE	EE, GE, DE*
GE	CE, EE, UE, DE*	GE	CE, EE, UE, DE*
MU	DE*	MU	DE*
		AFT blank, AFC filled	use the clerk counts table

* see Attachment A for details about the DI*, DE* counts

6. Clarifications

The following are three clarifications to the specification S-QA-09d3, the third draft of the plan for quality assurance for the clerical matching of housing units. These clarifications were previously released as a draft specification S-QA-09r1. For completeness, they are incorporated here.

1. Analysts Working as Techs or Clerks

Analysts can, if necessary, work clusters as a Tech or a Clerk. This can occur in BFU and AFU matching. This is not expected to happen often. However, if an Analyst works a cluster as a Tech or a Clerk, this cluster should not go on for further QA review. The sampling rate for the cluster should be stored as 0, and this cluster should not go to the tech or analyst stage unless it qualifies for a 'must do' criteria.

2. Techs Working as Clerks

Techs can work clusters as Clerks in either the BFU or AFU stages. These techs will use clerk ids to work at the BFC or AFC level, and their work will be treated just as any other clerk. Any sampling decisions made on their work as a clerk will not affect their sampling rate when working as a Tech. No special accomodation needs to be made for this situation.

3. Counting the Clusters Worked

To calculate the number of clusters worked for the sampling rate, all clusters worked should be considered in this count. That is, even though a cluster may meet some must do criteria which would send it automatically to the next higher level of review, that cluster should also count towards the take every nth cluster count.

This is because in a cluster with records meeting the must do criteria, only the records with the must do criteria are reviewed and this can not be considered a cluster with a full QA review. Such clusters must also be available for a full review. If a cluster has a must do criteria and happens to be the cluster selected for full review by the take every, this cluster should have 'sampling QA' as the reason why it was sent to the next level and all records coded in the previous stage should be reviewed.

Any questions about this QA plan should be directed to Carol Corby on ext. 4889 or Rosemary Byrne on ext. 8021.

cc: DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
A.C.E. Implementation Team
Statistical Design Team Leaders
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Attachment A

BFU changes for clerk change count

Each row in the following tables represents the clerk's coding of a record and each column shows the possible codes a tech or analyst could assign as the HICODE for this record. The first table shows A.C.E. records and the action to be taken, that is whether to count this as a change or ignore it. The second table shows the Census records and the action to take on these. These are separated to assure that the errors are properly counted. If a clerk assigns an M, this code goes on both the A.C.E. and the Census record. If the tech or analyst unlinks these, both records have a change. But this is only considered one 'change' and only the A.C.E. code change should be counted while the census record should not be. Therefore, the second table has very few changes that should be added to the change count.

The clerk can either improperly assign a duplicate code to a unit or can neglect to assign the duplicate code to the unit. Since the tech or analysts change may only entail swapping the duplicate/primary status of the two records, the primary record for this duplicate (whether it be a clerk coded DI/DE or a tech/analyst coded DI/DE) should be checked to avoid adding such a scenario to the change count. However, when the clerk incorrectly codes a record as a duplicate, we cannot see the code the clerk assigned to this duplicate's primary. Therefore counts are usually added whenever a clerk's DI or DE code is changed, and added conditionally when the tech or analyst assigns a DI/DE code. See the end of the tables for the conditional count instructions.

The 'blank' as HICODE indicates that the tech or analyst did not code the clerk's record. The 'blank CM=M' as the clerk code reflects the case where the computer match code is M and the clerk did not code the record. For all other computer match codes (P, NI, NE) the clerk must put some code on the record before the cluster can be closed out.

Table 1

BFU clerical codes vs tech or analyst HICODE									
A.C.E. units									
	M	new M	P	new P	NI	DI	ZI	ZM	blank
M	ok	change count	change count	n/a	change count	diff- erence ok	diff- erence ok	change count	ok
P	diff- erence ok	n/a	ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	change count	ok
NI	change count	n/a	diff- erence ok	n/a	ok	change condition al count	diff- erence ok	change count	ok

BFU clerical codes vs tech or analyst HICODE A.C.E. units									
	M	new M	P	new P	NI	DI	ZI	ZM	blank
DI	change count	n/a	change count	n/a	change count	ok	diff- erence ok	change count	ok
RV	diff- erence ok	n/a	diff- erence ok	n/a	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	n/a
blank CM = M	diff- erence ok	diff- erence ok	diff- erence ok	n/a	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Counts - if primary's BFC Match Code is not RV or DI then count change

Table 2

BFU clerical codes vs tech or analyst HICODE Census units							
	M	new M	P	new P	NE	DE	blank
M	ok	difference ok	difference ok	n/a	difference ok	difference ok	ok
P	difference ok	n/a	difference ok	difference ok	difference ok	difference ok	ok
NE	difference ok	n/a	difference ok	n/a	ok	change conditional count	ok
DE	difference ok	n/a	change count	n/a	change count	ok	ok
RV	difference ok	n/a	difference ok	n/a	difference ok	difference ok	n/a
blank CM = M	difference ok	difference ok	difference ok	n/a	difference ok	difference ok	ok

Note: Change Conditional Count - if primary's BFC Match Code is not RV or DE then count change

AFU changes for clerk change count

When counting the changes made in the AFU matching stage, only consider codes assigned during this stage.

The changes from UI to CI and vice versa as well as from UE to CE and CE to UE are considered by the analysts to be too subjective to assess as an error. For this reason these changes are not included in the 'change count'.

During AFU there is no duplicate search. Duplicates (DI's and DE's) can only be coded based on the notes on the Follow up forms. If a clerk codes a record as a duplicate and the tech or analyst changes this record, this is considered a change that should be counted (unless the tech or analyst simply switched the primary/duplicate status for a pair of HU's). If the HICODE from AFU is DI or DE and the clerk has a different code, this too should be counted as a significant change (unless the tech or analyst switched the codes for the primary and duplicate HU's). See the notes after Table 4 for explanations for counting 'change conditional count'.

Table 3

AFU clerical codes vs tech or analyst HICODE A.C.E. units										
	M	new M	CI	ZI	DI	UI	GI	MU	ZM	No change
M	ok	change count	change count	change count	change conditi onal count	change count	change count	diff- erence ok	change count	ok
CI	change count	n/a	ok	change count	change conditi onal count	diff- erence ok	change count	change count	change count	ok
ZI	change count	n/a	change count	ok	change conditi onal count	change count	change count	change count	change count	ok
DI	change count	n/a	change count	change count	ok	change count	change count	change count	change count	ok
UI	change count	n/a	diff- erence ok	change count	change conditi onal count	ok	change count	change count	change count	ok

AFU clerical codes vs tech or analyst HICODE A.C.E. units										
	M	new M	CI	ZI	DI	UI	GI	MU	ZM	No change
GI	change count	n/a	change count	change count	change conditi onal count	change count	ok	change count	change count	ok
MU	diff- erence ok	n/a	change count	change count	change conditi onal count	change count	change count	ok	change count	ok
RV	diff- erence ok	n/a	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	n/a
blank (no work flag on this record)	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Count – If primary's AFC Match Code is not RV or DI then count change

Table 4

AFU clerical codes vs tech or analyst HICODE									
Census units									
	M	new M	CE	EE	DE	UE	GE	MU	No change
M	ok	diff- erence ok	diff- erence ok	diff- erence ok	change condition al count	diff- erence ok	diff- erence ok	diff- erence ok	ok
CE	diff- erence ok	n/a	ok	change count	change condition al count	diff- erence ok	change count	diff- erence ok	ok
EE	diff- erence ok	n/a	change count	ok	change condition al count	change count	change count	diff- erence ok	ok
DE	change count	n/a	change count	change count	ok	change count	change count	change count	ok
UE	diff- erence ok	n/a	diff- erence ok	change count	change condition al count	ok	change count	diff- erence ok	ok
GE	diff- erence ok	n/a	change count	change count	change condition al count	change count	ok	diff- erence ok	ok
MU	diff- erence ok	n/a	diff- erence ok	diff- erence ok	change condition al count	diff- erence ok	diff- erence ok	ok	ok
RV	diff- erence ok	n/a	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	n/a
blank (no work flag on this record)	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Count – if primary's AFC Match Code is not RV or DE then count change

BFU changes for tech change count

Each row in the following tables represents the tech's coding of a record and each column shows the possible codes an analyst could assign as the HICODE for this record. The first table shows A.C.E. records and the action to be taken, that is, whether to count this as a change or ignore it. The second table shows the Census records and the action to take on these. These are separated to insure that the errors are properly counted.

The last row reflects the case where neither the tech nor the clerk has coded the record, but the analyst does.

For cases where the tech doesn't code a record which the clerk did code and the analyst then changes or relinks this record, see table 7. In this last scenario, both the tech and the clerk are charged with the change. This will happen automatically because the clerk's record will be compared to the analyst's code, and the tech's will also. Essentially, if an analyst codes any record other than a computer matched 'M', the tech should have assigned this code. These records are given the same duplicate check the clerk's records were given.

Table 5

BFU tech codes vs analyst HICODE A.C.E. units									
	M	new M	P	new P	NI	DI	ZI	ZM	blank
M	ok	change count	change count	n/a	change count	diff- erence ok	change count	change count	ok
P	diff- erence ok	n/a	ok	diff- erence ok	diff- erence ok	diff- erence ok	change count	change count	ok
NI	change count	n/a	diff- erence ok	n/a	ok	change condition al count	change count	change count	ok
DI	change count	n/a	change count	n/a	change count	ok	change count	change count	ok
RV	difference ok	n/a	difference ok	n/a	difference ok	difference ok	difference ok	difference ok	n/a
ZI	change count	n/a	change count	n/a	change count	change condition al count	ok	change count	ok
ZM	change count	n/a	change count	n/a	change count	change condition al count	change count	ok	ok

BFU tech codes vs analyst HICODE A.C.E. units									
blank clerk and tech CM = M	diff- erence ok	diff- erence ok	diff- erence ok	n/a	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Count – if primary's BFT Match Code is not RV or DI then count change

Table 6

BFU tech codes vs analyst HICODE Census units							
	M	new M	P	new P	NE	DE	blank
M	ok	difference ok	difference ok	n/a	difference ok	difference ok	ok
P	difference ok	n/a	ok	difference ok	difference ok	difference ok	ok
NE	difference ok	n/a	difference ok	n/a	ok	change conditional count	ok
DE	difference ok	n/a	change count	n/a	change count	ok	ok
RV	diff-erence ok	n/a	diff-erence ok	n/a	diff-erence ok	diff-erence ok	n/a
blank clerk and tech, CM = M	diff-erence ok	diff-erence ok	diff-erence ok	n/a	diff-erence ok	diff-erence ok	ok

Note: Change Conditional Count – if primary's BFT Match Code is not RV or DE then count change

Table 7

BFU blank for tech, analyst codes clerk's record HICODE Changes for Techs – A.C.E. records only									
	M	new M	P	new P	NI	DI	ZI	ZM	blank
clerk coded M	ok	change count	change count	n/a	change count	diff- erence ok	change count	change count	ok
clerk coded P	diff- erence ok	n/a	ok	diff- erence ok	diff- erence ok	diff- erence ok	change count	change count	ok
clerk coded NI	change count	n/a	diff- erence ok	n/a	ok	change condition al count	change count	change count	ok
clerk coded DI	change count	n/a	change count	n/a	change count	ok	change count	change count	ok
clerk coded RV	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: Change Conditional Count – if primary's BFC Match Code is not RV or DI and primary's BFT Match Code is not RV or DI then count change

Table 8

BFU blank for tech, analyst codes clerk's record HICODE Changes for Techs – Census records only							
	M	new M	P	new P	NE	DE	blank
clerk coded M	ok	difference ok	difference ok	n/a	difference ok	difference ok	ok
clerk coded P	difference ok	n/a	ok	difference ok	difference ok	difference ok	ok
clerk coded NE	difference ok	n/a	difference ok	n/a	ok	change conditional count	ok
clerk coded DE	difference ok	n/a	change count	n/a	change count	ok	ok
clerk coded RV	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: Change Conditional Count – if primary's BFC Match Code is not RV or DE and primary's BFT Match Code is not RV or DE then count change

AFU changes for tech change count

When counting the changes made in the AFU matching stage, only consider codes assigned during this stage.

The changes from UI to CI and vice versa as well as from UE to CE and CE to UE are considered by the analysts to be too subjective to assess as an error. For this reason these changes are not included in the 'change count'.

During AFU there is no duplicate search. Duplicates (DI's and DE's) can only be coded based on the notes on the Follow up forms. If a tech codes a record as a duplicate and the analyst changes this record, this is considered a change that should be counted (unless the analyst simply switched the primary/duplicate status for a pair of HU's). If the HICODE from AFU is DI or DE and the tech has a different code, this too should be counted as a significant change (unless the analyst switched the codes for the primary and duplicate HU's).

If an analyst changes a clerk's record and the tech has not coded this record, the change count should be conducted just as it was for the clerk. That is, if the clerk would have been charged for an error, so should the tech. Note that for records coded UI/CI or UE/CE by the analyst, the conditional count for these and for duplicate cases must be conducted.

See the notes after Table 10 for explanations for counting 'change conditional count'.

Table 9

AFU tech codes vs analyst HICODE A.C.E. units										
	M	new M	CI	ZI	DI	UI	GI	MU	ZM	No change
M	ok	change count	change count	change count	change conditi onal count	change count	change count	diff- erence ok	change count	ok
CI	change count	n/a	ok	change count	change conditi onal count	diff- erence ok	change count	change count	change count	ok
ZI	change count	n/a	change count	ok	change conditi onal count	change count	change count	change count	change count	ok
DI	change count	n/a	change count	change count	ok	change count	change count	change count	change count	ok
	M	new M	CI	ZI	DI	UI	GI	MU	ZM	No change

AFU tech codes vs analyst HICODE A.C.E. units										
UI	change count	n/a	diff- erence ok	change count	change conditi onal count	ok	change count	change count	change count	ok
GI	change count	n/a	change count	change count	change conditi onal count	change count	ok	change count	change count	ok
MU	diff- erence ok	n/a	change count	change count	change conditi onal count	change count	change count	ok	change count	ok
ZM	change count	n/a	change count	change count	change conditi onal count	change count	change count	change count	ok	ok
RV	diff- erence ok	n/a	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	n/a
blank (no work flag on this record)	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Count – if primary's AFT Match Code is not RV or DI then count change

Table 10

AFU tech codes vs analyst HICODE Census units									
	M	new M	CE	EE	DE	UE	GE	MU	No change
M	ok	diff- erence ok	diff- erence ok	diff- erence ok	change condition al count	diff- erence ok	diff- erence ok	diff- erence ok	ok
CE	diff- erence ok	n/a	ok	change count	change condition al count	diff- erence ok	change count	diff- erence ok	ok
EE	diff- erence ok	n/a	change count	ok	change condition al count	change count	change count	diff- erence ok	ok
DE	change count	n/a	change count	change count	ok	change count	change count	change count	ok
UE	diff- erence ok	n/a	diff- erence ok	change count	change condition al count	ok	change count	diff- erence ok	ok
GE	diff- erence ok	n/a	change count	change count	change condition al count	change count	ok	diff- erence ok	ok
MU	diff- erence ok	n/a	diff- erence ok	diff- erence ok	change condition al count	diff- erence ok	diff- erence ok	ok	ok
RV	diff- erence ok	n/a	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	n/a
blank (no work flag on this record)	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Count – if primary's AFT Match Code is not RV or DE then count change

Table 11

AFU blank for tech, analyst coded clerk's record HICODE Changes for Tech – A.C.E. units only										
	M	new M	CI	ZI	DI	UI	GI	MU	ZM	No change
clerk coded M	ok	change count	change count	change count	change conditi onal count	change count	change count	diff- erence ok	change count	ok
clerk coded CI	change count	n/a	ok	change count	change conditi onal count	diff- erence ok	change count	change count	change count	ok
clerk coded ZI	change count	n/a	change count	ok	change conditi onal count	change count	change count	change count	change count	ok
clerk coded DI	change count	n/a	change count	change count	ok	change count	change count	change count	change count	ok
clerk coded UI	change count	n/a	diff- erence ok	change count	change conditi onal count	ok	change count	change count	change count	ok
clerk coded GI	change count	n/a	change count	change count	change conditi onal count	change count	ok	change count	change count	ok
clerk coded MU	diff- erence ok	n/a	change count	change count	change conditi onal count	change count	change count	ok	change count	ok
clerk coded RV	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
blank (no work flag on this record)	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Count – if primary's AFC Match Code is not RV or DI and primary's AFT Match Code is not RV or DI then count change

Table 12

AFU blank for tech, analyst coded clerk's record HICODE Changes for Techs – CENSUS units only									
	M	new M	CE	EE	DE	UE	GE	MU	No change
clerk coded M	ok	differen ce ok	differen ce ok	differen ce ok	change conditio nal count	differen ce ok	differen ce ok	diff- erence ok	ok
clerk coded CE	differen ce ok	n/a	ok	change count	change conditio nal count	diff- erence ok	change count	differen ce ok	ok
clerk coded EE	differen ce ok	n/a	change count	ok	change conditio nal count	change count	change count	differen ce ok	ok
clerk coded DE	change count	n/a	change count	change count	ok	change count	change count	change count	ok
clerk coded UE	differen ce ok	n/a	diff- erence ok	change count	change conditio nal count	ok	change count	differen ce ok	ok
clerk coded GE	differen ce ok	n/a	change count	change count	change conditio nal count	change count	ok	differen ce ok	ok
clerk coded MU	diff- erence ok	n/a	differen ce ok	differen ce ok	change conditio nal count	differen ce ok	differen ce ok	ok	ok
clerk coded RV	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
blank (no work flag on this record)	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	diff- erence ok	ok

Note: Change Conditional Count – if primary's AFC Match Code is not RV or DE and primary's AFT Match Code is not RV or DE then count change



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-10

May 17, 2000

MEMORANDUM FOR: Diane F. Barrett
Leader, A.C.E. Housing Unit Team,

Charisse Jones
Leader, A.C.E. Computer Processing Team,

Miriam Balutis
Leader, A.C.E. Field Team,

and

Jerome Garrett
Leader, A.C.E. Field Automation Team

Through: *all for* Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: Specifications for Quality Assurance (QA) for Housing Unit
Followup Interviewing

Prepared by: Carol Corby

This memorandum documents the plan for quality assurance for the Housing Unit Followup interviewing. Samples of addresses being followed up will be double checked by QA interviewers. If the QA interviewer agrees with the answers given by the original interviewer, the cluster passes QA. If not, the rest of the addresses being followed up in that cluster will be checked.

The sample cases are to be drawn as follows: Before followup printing begins for each batch of clusters (nightly), a random start, N, between 1 and 10, is to be drawn. As forms are prepared for printing, sample cases are drawn for QA by starting with the Nth case and taking every 10th

case after that. The counting should be continued from one cluster to the next so that 10% of the followup cases are checked over all the clusters in the batch run. This means that a cluster with less than 10 addresses in followup may not have any case checked, depending on whether the counter reaches 10 within the cluster. By continuing the counter from one cluster to the next, if several small clusters are prepared in a row, at least one will have a case checked.

The list of addresses to be checked for QA is to be printed, on a separate sheet, along with the followup form according to the followup form specification. If there are no QA cases for a particular cluster, the sheet should still be printed indicating no QA. This sheet must be separated from the followup form before the form goes to the field for interviewing, and kept in the field office. When the followup form is returned, the QA interviewer will be sent the followup form and the QA sheet to check the QA cases. If the answers are correct for those cases, the followup form and the QA form are returned to the field office together. If not, the QA interviewer is to check all the answers on the followup form and make any corrections needed before returning the forms. The results of the QA check are to be recorded in the QA section of the cover of the HU followup form. The QA sheets will be returned to headquarters.

In addition to the sample QA cases, the first followup form returned from each interviewer is to be completely checked. After the first form has been returned from interviewing, an office clerk will write on the QA sheet "Check All Cases" for that cluster, whether or not any sample cases were chosen for QA.

Any questions about this QA plan should be directed to Carol Corby on ext. 4889.

cc: DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
Accuracy and Coverage Evaluation Implementation Team
Statistical Design Team Leaders

David Whitford
Magda Ramos



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-11

February 4, 2000

MEMORANDUM FOR:

Diane F. Barrett
Leader, A.C.E. Housing Unit Team,

Miriam Balutis
Leader, A.C.E. Field Team,

Charisse Jones
Leader, A.C.E. Computer Processing Team,

and

Jerome Garrett
Leader, A.C.E. Field Automation Team

Through: *du for* Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RBY*
Leader, A.C.E. Quality Assurance Team

Subject: Specifications for Quality Assurance (QA) for Housing Unit
Relisting

Prepared by: Carol Corby and Rosemary Byrne

1. Background

This memorandum documents the plan for quality assurance for the relisting of housing units in Independent Listing Books (ILBs) after housing unit matching. The clusters being relisted are ones for which match results suggest that the original lister was in the wrong block. We expect the relisted ILB to have a different set of addresses than the original ILB. The QA plan consists of an edit and house number range check of all ILBs and dependent review in the field of selected ILBs based on comparison to the original listing.

2. Overview

As the relisted books are checked into the field office, they are to be edited with the same edit rules used for original listing. Then the house numbers on house number - street name type addresses are to be checked against the street index file the same way they were during original listing. Then the addresses in the relisted ILB are to be compared to a printed listing of a sample of addresses from the original keyed ILB. The sample comes from the original addresses found to be outside the cluster (match coded GI) during housing unit followup interviewing. These addresses should not be picked up during relisting.

If the relisted ILB contains even one of the sample addresses, the relisted ILB must go back to the field for a dependent check for listing errors by a more experienced lister. Also, if the edit finds problems that can only be corrected in the field, according to the original edit rules, the relisted ILB may be sent out for the dependent check. Similarly, if the ILB fails the range check according to the original listing rules, it may be sent out for the dependent check. After the relisted ILB returns from the dependent check, it will be accepted as correct.

The sample of originally listed addresses will consist of at least 20% of the addresses that had final match codes of GI. The cases should be drawn as follows:

If the cluster contains 20 or fewer GIs	print all GI addresses
21 to 30 GIs	print every 2 nd GI address
31 to 49 GIs	print every 3 rd GI address
50 or more GIs	print every 5 th GI address

The cases may be drawn from each cluster in whatever order they appear in the cluster. The printout must not indicate that the addresses were match coded GI.

In order for this plan to work, printed copies of the sample of original ILB addresses must be provided to the field office (COMPRO). Also, the relist ILBs must be checked out to the field and back in one extra time, in the A.C.E.2000, for the dependent field check (TMO).

3. Printing of the GI's

Please see Appendix A for the Relisting QA Check printout.

The variables to be printed on the list of GI's will come from the HU MaRCS files for the A.C.E. housing units. Each printout should contain the form number (D-1351), a standard Census Confidential heading, title (Relisting QA Check), Cluster, LCO, City, and Block, as well as the words 'Cluster', 'LCO', 'City' and 'Block' (see attachment A). Both stateside and Puerto Rican addresses can be printed using the same format.

For each housing unit listed, the following variables are requested. These variables are from the HUMARCS_ACE2K files. Construct the Address from the concatenated fields HSNUM, ME, RR, BOX, POBOX. Use three lines if necessary. Add the text 'RR' in front URBNZ, SNA

of the variable RR. Add the text 'Box' in front of the variable Box. Add the text 'PO Box' in front of the variable POBOX.

If HSNUM and SNAME are blank, fill the column for Physical location description. This can be found in the HUMARCS_ACEREF2K files. (If ITEMTYPE = 1). Use three lines if necessary for the Physical location description. Double space between each listing.

Field	Field Description	Length	Text to be printed
LCO	Local Census Office	4	LCO
CLUST	cluster number	6	Cluster
CITY	City name	20	City
BLK	block number	6	Block (item 2)
MSN	map spot number	5	MSN (item 6)
WMSN	within map spot number	4	WMSN
HSNUM	House number	10	House No. (item 3)
SNAME	Street name	35	Street name (item 4a)
URBNZ	Urbanization name	30	Urbanization (4b)
RR	Rural Route	15	Rural Rte (item 5a)
BOX	RR mail box number	8	Box No. (item 5b)
POBOX	PO Box	10	PO Box No. (item 7)
ITEM	text	80	Physical location description (item 10)
ZIP	Zip code	5	ZIP code (item 8)
TOA	Type of Basic Address	1	Type of Address (item 11a)
USTAT	Unit Status	1	Unit Status (item 11b)

At the beginning of each listing, place a column with the words 'Row ID'. Each listing should be numbered, with the number appearing in this column. After each listing, two options should be added with the words 'Yes' and 'No'. This column should have a heading with the following text: 'Is Address in Relisted ILB?'

The printout must be in landscape format with bold text for the titles and variable names and standard text for each housing unit. The printouts should be printed in Regional Office groupings, sorted by LCO, Cluster, City, Block, MSN, WMSN. The clusters in Puerto Rico should be printed separately from the Boston ACERO.

Any questions about this QA plan should be directed to Carol Corby on ext. 4889 or Rosemary Byrne on ext. 8021.

cc: DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
Accuracy and Coverage Evaluation Implementation Team
Statistical Design Team Leaders
David Whitford
Magda Ramos

Attachment A

Form D-1351

Relisting QA Check

NOTICE: Information contained in this report is for use by the Census Bureau and is confidential by law (Title 13, U.S.C.). It may be seen only by sworn Census employees and may be used only for statistical purposes.

CENSUS CONFIDENTIAL*RESTRICTED DATA FOR OFFICIAL USE ONLY**

Access administratively restricted to ACERO staff designated by the Regional Director and to authorized Accuracy and Coverage Evaluation staff

Cluster: *clust*

LCO: *lco*

City: *city*

Block: *blk*

List of Addresses to Check

Row ID	MSN (item 6)	WMSN	Address (House No. (3), Street name (4a), Urbanization (4b), Rural Rte. (5a), Box No. (5b), PO Box (7))	Physical location description (item 10)	Zip Code (item 8)	Type of Address (item 11a)	Unit Status (item 11b)	Is Address in Relisted circle one	
								Yes	No
1	0032	0001	3955 Utah St. RR 201 PO Box 221	white trailer in back behind garage	63110	2	2		
2	0045		1313 L. Street		63110	1	1	Yes	No



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

May 17, 2000

DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-12

Memorandum for : Marjorie Martinez
Leader, A.C.E. Clerical Processing Team
and
Diane F. Barrett
Leader, A.C.E. Housing Unit Team

Through: *all for* Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: Quality Assurance (QA) for the Housing Unit Followup (HUFU)
Form Packaging and Shipping

Prepared by: Damon Smith

1. Introduction

During the Housing Unit matching phase of the Accuracy and Coverage Evaluation (A.C.E.) for Census 2000, a follow-up interview is conducted for housing units that require additional information for matching. Questions and notes about each housing unit are printed on the Housing Unit Follow-up (HUFU) questionnaire. Additionally, for each cluster, a HUFU Reference List and the HUFU Quality Assurance form are also printed. The HUFU forms are printed from an ASCII file on the Docuprint printers in the Document Services Branch at National Processing Center (NPC). Information about the housing unit(s) requiring follow-up and the cluster it is in are printed on the HUFU forms from the Housing Unit Matching Review and Coding System (HUMaRCS). The HUMaRCS files are sent to the Document Services Branch (DSB) of the National Processing Center where the HUFU forms are printed, assembled, and packaged. These boxes are then examined by the Statistical Methods and Quality Assurance Branch (SMQAB) for a QA check. After the QA check, the packages are checked out by DSB and then shipped to the A.C.E. Regional Offices (ACEROs).

2. First Stage Quality Assurance (QA) - Print Quality Inspection

At the beginning of production, there will be two checks conducted to ensure the quality of the forms. The first check will be conducted by the Statistical Management and Quality Assurance Branch (SMQAB) as the forms are received off of the docuprint printer. SMQAB will conduct a routine print quality QA check of the forms, which consist of checking the first five pages, the last five pages, and conducting a random check of the pages in the middle. During this check, SMQAB will be assuring that the forms are printing correctly and clearly.

Print File Generated for HUFU Package

HUMaRCS will generate print files for HUFU packages when a cluster is ready for field follow-up. These print files will be generated by HUMaRCS software running on the HUMaRCS NT Server system. DSB will copy the print files over to their system, then print the documents on their high-speed printers. The print generation job will be launched nightly outside of production hours.

Filenames Produced for HUFU Package

HUMaRCS will produce a separate print file for each cluster that goes to follow-up. Each night, HUMaRCS will create a new subdirectory, under directory *hufuprnt*, with the night's print files. The directory will be named *hufu<mdn>*, where:

m = 1-character month (1-9, a-c)

d = 1-character day (1-9,a-c)

n = 1-character sequence number (almost always 1; may be 2 for special run)

Each file will be named *LCO<aaaa>CL<bbbbbb>.PS*, where

aaaa = 4-character LCO number

bbbbbb = 6-character cluster number

Filename List

On a daily basis, Document Services Branch (DSB) will print the directory of filenames. This *filename list* will identify the LCO and clusters for the HUFU packages generated the night before.

3. Package and Assembly

After the three piece HUFU package is printed by cluster, the work along with the *filename list* are sent to DSB to be assembled. In this area, each section will be manually stapled separately, that is the HUFU questionnaire is stapled together, the HUFU Reference List is stapled together, and the HUFU QA form is stapled together.

After these three pieces are stapled, all three for a cluster will be inserted into a 12 x 15 ziploc bag. All of the ziploc bags should be arranged by cluster and then packed into the same box for a Local Census Office (LCO). Each box is estimated to hold up 15 filled ziploc bags. Note: It is possible that more than one box will be necessary for an LCO.

To identify clusters within the box, place a copy of the *filename list* highlighting the LCO and cluster filenames that are contained in that box. The *filename list* will assist SMQAB in verifying the contents within the box. *For example, suppose there are 15 completed HUFU packages in a box. Then there should be 15 filenames (LCO/cluster numbers) highlighted on the filename list. Each filename represents a HUFU package for a cluster.*

4. Second Stage Quality Assurance (QA) - Assembly and Packaging Inspection

A QA check will be performed by SMQAB on the boxes before they are shipped out to the ACEROs. Generate a random number table from 1 to 15. Use the random number table to select a 1 in 15 sample of the ziploc bags to be inspected out of each box. The QA checker examines the ziploc bag checking for the following (*a check form similar to this is recommended*):

Quality Assurance Check List for the Ziploc Bag:

- ☐ Visible Barcode - The ziploc bags are transparent, enabling the bags to be checked out easily without removing the contents from the bag. Therefore, the HUFU cover page, where the barcode is shown, must be visible on the top of the package for easy wanding at check out time.
- ☐ Contents of the Package - The QA checker will check to see if all the appropriate contents are present in the ziploc bag (HUFU Questionnaire, HUFU Reference List, HUFU QA Form).
- ☐ Stapled Packages Properly - As stated in section three, each section of the package must be stapled separately (e.g. HUFU Questionnaire stapled together, HUFU Reference List stapled together, and the HUFU QA Form stapled together). The QA checker will make sure the sections are properly stapled.

- ☐ Proper Page Number Order - Each section could have multiple pages. The QA checker

will be checking for correct sequence of the page numbers (e.g. 1, 2, 3, etc.). Check the box to see if all pages are present and in the correct order for each form:

- ☐ HUFU Questionnaire
- ☐ HUFU Reference List
- ☐ HUFU QA Form

Quality Assurance Check List for an LCO box:

Additionally, to assure that all the contents are present in the box, the QA checker will use the LCO Summary Sheet or the list of filenames to check that all the clusters are present in the box.

- ☐ Accurate LCO and Cluster Number - The QA checker will check to see if all the ziplocs in the box correspond to the same LCO and Cluster Number. This will ensure that the contents in each box goes to the appropriate ACERO.

5. Quality Assurance Check Failure

If the bag fails the QA check, all of the bags in the box will be checked. The QA checker will seek to rectify the situation by conducting a thorough check of all of the contents in the box. If the QA checker cannot rectify the situation, the cluster will be reprinted and reassembled.

If the box fails the QA check, the QA checker will seek to rectify the situation by conducting a thorough check of all the contents making up the box and any other boxes for that LCO. If the QA checker cannot rectify the situation, the cluster will be reprinted and reassembled.

After a successful QA check, the HUFU packages for each LCO are scanned by DSB for check out. The boxes are then to be shipped to the appropriate ACERO.

cc: DSSD Census 2000 Memorandum Series Distribution List
A.C.E. Implementation Team
Statistical Design Team
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UNITED STATES DEPARTMENT OF COMMERCE
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DSSD Census 2000 Procedures and Operations Memorandum Series Chapter S-QA-15

February 4, 2000

Memorandum for : Magdalena Ramos
Leader, A.C.E. Implementation Team

From: Rosemary Byrne *RLB*
Leader, A.C.E. Quality Assurance Team

Subject: Specifications for Testing the HU MaRCS Quality Assurance Plan

Prepared by: Patricia Feindt and Rosemary Byrne

This memorandum documents the plan for testing the quality assurance procedures using the HU MaRCS system. It contains procedures on what to test for and how to test the HU MaRCS system.

Attachment A contains the complete test plan.

Any questions should be directed to Patricia Feindt or Rosemary Byrne on ext. 8021.

cc: DSSD Census 2000 Procedures and Operations Memorandum Series Distribution List
Accuracy and Coverage Evaluation Implementation Team
Statistical Design Team Leaders
David Whitford
Magda Ramos

Census 2000 QA Test Plan

A.C.E. BFU and AFU QA Housing Unit Matching

1.0 Introduction

1.1

This memorandum documents the plan for testing the quality assurance procedures using the HU MaRCS system. It contains procedures on what to test for and how to test the HU MaRCS system.

1.2 Scope

The purpose of this Software Test Plan is to provide a standardized, repeatable software testing method for validating the Housing Unit Matching Review and Coding System software (HUMaRCS) for the Quality Assurance (QA) of Housing Unit Matching. This document describes the testing objectives, strategy, and approach as well as providing an overview of the activities which comprise the testing effort.

1.3 System Description

The HU MaRCS Software Application is the system used in the clerical matching process. This system is used during both the BFU and AFU matching phase. It displays the A.C.E. and Census addresses coded during the computer match process, as well as A.C.E. and Census maps.

The system will assist the user in matching housing units by address, housing unit description, or map spot location, refer problem match cases for technician and analysts, generate cases for follow-up interview, and produce reports for analytical review.

1.4 Referenced Documents

The official MaRCS documents referred to in the QA HU MaRCS Test Plan document are:

- DSSD Census 2000 Dress Rehearsal Memorandum Series, Chapter S-QA-09d3
MaRCS Specifications for Quality Assurance (QA) for Housing Unit Matching;

The following documents were developed by Gunnison Consulting Group, Inc. and are referenced in the QA HU MaRCS Test Plan :

- Housing Unit (HU) Matching Review and Coding System (MaRCS) Software Coding Standards; and
- Housing Unit (HU) Matching Review and Coding System (MaRCS) Software Specification.

1.5 Test Plan Objectives

The overall objective for HU MaRCS QA testing is to ensure functional and technical requirements as detailed in the 1999 HU MaRCS Software Requirements Specification for QA document. If the requirement cannot be met, a suitable deviation or waiver must be approved and implemented.

1.6 Assumptions

The test plan as presented in this document is based upon certain assumptions and constraints. These are itemized below:

- Testing is limited to clerical matching software. It does not include additional testing such as: input data, follow-up form content, database loading, cluster assignment, and reports.
- All unit testing of individual hardware and software systems, subsystems, and components is complete with the results verified and accepted by the development team prior to execution of the formal testing phase.
- Verification of the consistency of the MaRCS test environment across the test platform will be completed as planned.
- Standard workstation configuration will be maintained during the test period.

2.0 TEST ENVIRONMENT

The resources needed to complete QA HU MaRCS testing activities shall include the HU MaRCS test environment and the test procedures and data generated by the QA Test Team. All integration and system testing for the MaRCS system will be conducted at the Census Headquarters.

2.1 Equipment

2.1.1 Software

The software being utilized is as follows:

- Microsoft Visual Basic 6.0, with Service Patch 2, will be used for the graphical user interface (GUI) programming.
- Microsoft SQL Server 7.0 Standard Edition will be used for the database management functions.
- GridWiz Version 3.7A will be used to provide a mechanism for displaying intelligent tables of information on some screens.
- Sheridan Active Suite will be used to provide a simple, canned menu structure, enhanced controls, and an application framework.
- Crystal Reports will be used to produce the Housing Unit Follow-up Forms, Quality Assurance Cover Sheets, Master Address File Reference Address Lists, and other printed materials.
- Remedy will be used to report trouble incidents. It is a reporting software package used for maintaining, tracking, and reporting incidents. It will also be used to produce ad hoc reports. •

2.1.2 Hardware

The hardware being utilized is as follows:

- Personal Computer - Dell Pentium Computer Base with 32MB RAM, 3-GB hard drive, and a 3 ½ inch 1.44-MB floppy drive;
- Monitor - Dell Trinitron 20 inch color screen monitor;
- Keyboard - Dell Quietkey 12 function keyboard; and

- Mouse - three (3) button mouse.

2.1.3 Setup

The HU MaRCS database will reside on a single Windows NT server, using Microsoft SQL Server software.

There will be multiple user workstations, each running the Windows NT Workstation software. The online, interactive HU MaRCS software will run as an executable program on the user workstations.

Communications between the workstations and the server will be via the Bureau's existing LAN/WAN facilities. No dial-up connections will exist.

3.0 TEST STRATEGY

The strategy for testing the MaRCS system has been defined in terms of successful completion and verification of test results for the following MaRCS functions:

- Counting the significant changes in records coded by clerks in the BFC and AFC stages
- Counting the significant changes in records coded by techs in the BFT and AFT stages
- Monitoring clerk and tech proficiency
- Allowing clerks or techs to be put into or removed from sampling
- Setting the sampling parameters for clerks and techs

3.1 Definition of Testing Types

For the purposes of this Test Plan, the following levels of testing shall be performed:

- Informal testing, which consists of unit testing and software component testing. This testing is performed by the MaRCS Development Team in the development domain on the individual hardware and software components, systems, and subsystems.
- The formal testing covered by this plan consists of Headquarters (HQ) testing and Regression Testing which will be performed within the scope of HQ testing by the Test Team in the test domain.
- Additional system testing performed by NPC will be performed in Jeffersonville.

3.1.1 Formal Testing (HQ)

For the purposes of this Test Plan, formal testing consists of HQ testing. Formal testing occurs after the MaRCS Development Team completes unit testing and determines that the system is ready to begin testing. The formal test environment is under strict configuration change control. These control mechanisms require that:

- The software baseline and database be under strict control;
- The database content is planned to allow prediction of test results;
- Testing is performed on standard configured MaRCS workstations; and
- Perceived problems are documented as Trouble Incident Reports (TIRs).

All formal testing is planned and scheduled to minimize interference with order testing activities.

HQ testing is performed to ensure that the MaRCS hardware and software components, systems and subsystems can be incrementally combined during logical processing sequences (i.e. test cases) which replicate HU MaRCS functionality.

3.2 Test Methods and Constraints

3.2.1 Methodology

The Test Team will conduct usability, function, and system testing to:

- Ensure that all functions of the software are operating as designed and that all software requirements are met;
- Check the functionality by running a series of test cases to identify discrepancies between the program and the software specification

3.2.2 System Test Conditions

Fifty (50) test clusters of data that approximate the live production environment will be used for testing.

3.2.3 System Test

QA total testing of the HU MaRCS software will occur. The QA Test Team will test the three stages (i.e. clerk, technician, and analyst) of both BFU and AFU Matching for the HU phase. However, since the software to load the clusters and batches is not a part of the test environment, the testing will not check the exclusivity of cluster assignments and the handling of those clusters upon close out.

3.2.4 System Test Constraints

Testing is contingent upon the readiness of the equipment, the existence of the accounts, the availability of the MaRCS software, and the readiness of the test clusters. The software availability is contingent upon the completion and code testing by the developers.

Section 4.0 Monitor User Proficiency

The following tables document the test plan for the Monitor User Proficiency screen from the Gunnison HU MaRCS Software specification, Chapter 2.16, p.2-45 - 2-47.

Monitor User Proficiency Clerks in BFC		
Table 4.1		
Requirement Number	Requirement	Source/Notes
1	The system shall display all the change data for a clerk in BFC stage	Gunnison HU MaRCS SW spec
2	The system shall display the change history since the last decision for a clerk in BFC stage	
3	The system shall allow the 'approved for Rural clusters' box to be checked resulting in approval for this clerk to work Rural clusters	
4	The system shall allow the 'approved for Rural clusters' box to be unchecked resulting in this clerk being restricted from working Rural clusters	
5	The system shall allow the 'approved for Puerto Rico clusters' box to be checked resulting in approval for this clerk to work Puerto Rican clusters	
6	The system shall allow the 'approved for Puerto Rico clusters' box to be unchecked resulting in this clerk being restricted from working Puerto Rico clusters	
7	The system shall allow the 'approved for sampling' box to be checked resulting in the Clerk's sampling approval flag = 1 even though this flag was previously = 0 from the last sampling decision	this clerk is put into sampling QA
8	The system shall allow the 'approved for sampling' box to be unchecked resulting in the Clerk's sampling approval flag = 0 even though this flag was previously = 1 from the last sampling decision	this clerk is forced into 100% QA

**Monitor User Proficiency
Techs in BFT**

Table 4.2

Requirement Number	Requirement	Source/Notes
1	The system shall display all the change data for a tech in BFT stage	Gunnison HU MaRCS SW spec
2	The system shall display the change history since the last decision for a tech in BFT stage	
3	The system shall allow the 'approved for Rural clusters' box to be checked resulting in approval for this tech to work Rural clusters	
4	The system shall allow the 'approved for Rural clusters' box to be unchecked resulting in this tech being restricted from working Rural clusters	
5	The system shall allow the 'approved for Puerto Rico clusters' box to be checked resulting in approval for this tech to work Puerto Rican clusters	
6	The system shall allow the 'approved for Puerto Rico clusters' box to be unchecked resulting in this tech being restricted from working Puerto Rico clusters	
7	The system shall allow the 'approved for sampling' box to be checked resulting in the Tech's sampling approval flag = 1 even though this flag was previously = 0 from the last sampling decision	this tech is put into sampling QA
8	The system shall allow the 'approved for sampling' box to be unchecked resulting in the Tech's sampling approval flag = 0 even though this flag was previously = 1 from the last sampling decision	this tech is forced into 100% QA

**Monitor User Proficiency
Clerks in AFC**

Table 4.3

Requirement Number	Requirement	Source/Notes
1	The system shall display all the change data for a clerk in AFC stage	Gunnison HU MaRCS SW spec
2	The system shall display the change history since the last decision for a clerk in AFC stage	
3	The system shall allow the 'approved for Rural clusters' box to be checked resulting in approval for this clerk to work Rural clusters	
4	The system shall allow the 'approved for Rural clusters' box to be unchecked resulting in this clerk being restricted from working Rural clusters	
5	The system shall allow the 'approved for Puerto Rico clusters' box to be checked resulting in approval for this clerk to work Puerto Rican clusters	
6	The system shall allow the 'approved for Puerto Rico clusters' box to be unchecked resulting in this clerk being restricted from working Puerto Rico clusters	
7	The system shall allow the 'approved for sampling' box to be checked resulting in the Clerk's sampling approval flag = 1 even though this flag was previously = 0 from the last sampling decision	this clerk is put into sampling QA
8	The system shall allow the 'approved for sampling' box to be unchecked resulting in the Clerk's sampling approval flag = 0 even though this flag was previously = 1 from the last sampling decision	this clerk is forced into 100% QA

**Monitor User Proficiency
Techs in AFT**

Table 4.4

Requirement Number	Requirement	Source/Notes
1	The system shall display all the change data for a tech in AFT stage	Gunnison HU MaRCS SW spec
2	The system shall display the change history since the last decision for a tech in AFT stage	
3	The system shall allow the 'approved for Rural clusters' box to be checked resulting in approval for this tech to work Rural clusters	
4	The system shall allow the 'approved for Rural clusters' box to be unchecked resulting in this tech being restricted from working Rural clusters	
5	The system shall allow the 'approved for Puerto Rico clusters' box to be checked resulting in approval for this tech to work Puerto Rican clusters	
6	The system shall allow the 'approved for Puerto Rico clusters' box to be unchecked resulting in this tech being restricted from working Puerto Rico clusters	
7	The system shall allow the 'approved for sampling' box to be checked resulting in the Tech's sampling approval flag = 1 even though this flag was previously = 0 from the last sampling decision	this tech is put into sampling QA
8	The system shall allow the 'approved for sampling' box to be unchecked resulting in the Tech's sampling approval flag = 0 even though this flag was previously = 1 from the last sampling decision	this tech is forced into 100% QA

Section 5.0 Adjust Quality Assurance Parameters Screen

The following tables document the test plan for the Adjust Quality Assurance Parameters screen from the Gunnison HU MaRCS Software specification, Chapter 2.17, p.2-47- 2-48.

Adjust Quality Assurance Parameters		
Table 5.1		
Requirement Number	Requirement	Source/Notes
1	The system shall allow the Sampling Rate for Techs in BFU to be between 1 and 99 inclusive	Gunnison HU MaRCS SW spec
2	The system shall allow the Sampling Rate for Techs in AFU to be between 1 and 99 inclusive	
3	The system shall allow the Sampling Rate for Clerks in BFU to be between 1 and 99 inclusive	
4	The system shall allow the Sampling Rate for Clerks in AFU to be between 1 and 99 inclusive	
5	The system shall allow the Minimum records worked and reviewed for Clerk sampling approval in BFU to be between 10 and 999 inclusive	
6	The system shall allow the Minimum records worked and reviewed for Clerk sampling approval in AFU to be between 10 and 999 inclusive	
7	The system shall allow the Minimum records worked and reviewed for Tech sampling approval in BFU to be between 10 and 999 inclusive	
8	The system shall allow the Minimum records worked and reviewed for Tech sampling approval in AFU to be between 10 and 999 inclusive	
9	The system shall allow the Maximum change rate for automatic sampling approval for Clerks in BFU to be between 0 and 20 inclusive	
10	The system shall allow the Maximum change rate for automatic sampling approval for Clerks in AFU to be between 0 and 20 inclusive	

Adjust Quality Assurance Parameters

Table 5.1

Requirement Number	Requirement	Source/Notes
11	The system shall allow the Maximum change rate for automatic sampling approval for Techs in BFU to be between 0 and 20 inclusive	
12	The system shall allow the Maximum change rate for automatic sampling approval for Techs in AFU to be between 0 and 20 inclusive	
13	The system shall allow the Minimum records worked and reviewed for subsequent Clerk sampling re-evaluation in BFU to be between 10 and 999 inclusive	
14	The system shall allow the Minimum records worked and reviewed for subsequent Clerk sampling re-evaluation in AFU to be between 10 and 999 inclusive	
15	The system shall allow the Minimum records worked and reviewed for subsequent Tech sampling re-evaluation in BFU to be between 10 and 999 inclusive	
16	The system shall allow the Minimum records worked and reviewed for subsequent Tech sampling re-evaluation in AFU to be between 10 and 999 inclusive	

Section 6. Setting the Next Stage and Reason Codes

The following tables are to test the setting of the next stage and reason code logic found in the Gunnison HU MaRCS software specification, Chapter 2.4, p.2-10 to 2-14.

If old stage is BFC and clerk or tech worked the cluster:

BFU next stage logic clerks and techs working as clerks		
Table 6.1		
Requirement Number	Requirement	Source/Notes
1	Test 1. The system shall send the cluster to the BFT stage if clerk's sample approval flag = 0 from the Monitor User Proficiency screen (this clerk is in 100% QA) The BFT why code = 1 BFT sampling rate = 1	Gunnison HU MaRCS SW spec
2	Test 1(cont). The system shall send the cluster to the BFT stage if clerk's sample approval flag = 0 from the QA Parameters screen (all clerk's are in 100% QA) The BFT why code = 1 BFT sampling rate = 1	
3	Test 2. The system shall send the cluster to the BFT stage if test 1 failed and clerk's sample approval flag = 1 from the previous sampling decision screen (this clerk is in sampling QA) and the number of unsampled clusters worked by the clerk since the last sampling decision is one less than N2 (clerk's sampling rate BFU from QA Parameters screen) The BFT why code = 1 reset count of unsampled clusters = 0 BFT sampling rate = N2	this clerk is in sampling from the last decision, there were less than the Max Change changes counted

**BFU next stage logic
clerks and techs working as clerks**

Table 6.1

Requirement Number	Requirement	Source/Notes
4	<p>Test 2(cont). The system shall send the cluster to the BFT stage if test 1 failed and clerk's sample approval flag = 1 from the Monitor User Proficiency screen (this clerk is in sampling QA) and the number of unsampled clusters worked by the clerk since the last sampling decision is one less than N2 (clerk's sampling rate BFU from QA Parameters screen)</p> <p>The BFT why code = 1 reset count of unsampled clusters = 0 BFT sampling rate = N2</p>	<p>this clerk is in sampling from a manual override at the Monitor User proficiency screen they were previously in 100% QA</p>
5	<p>Test 3. The system shall send the cluster to the BFT stage if test 1 and 2 failed and clerk's sample approval flag = 1 and there are 1 or more records coded RV</p> <p>The BFT why code = 2 the BFT sampling rate = N2 the current unsampled count = previous count + 1</p>	
6	<p>Test 4. The system shall send the cluster to the BFT stage if test 1-3 failed and clerk's sample approval flag = 1 and there are 1 or more records with FU note flag</p> <p>The BFT why code = 3 the BFT sampling rate = N2 the current unsampled count = previous count + 1</p>	

**BFU next stage logic
clerks and techs working as clerks**

Table 6.1

Requirement Number	Requirement	Source/Notes
7	<p>Test 5. The system shall send the cluster to the BFT stage if test 1-4 failed and clerk's sample approval flag = 1 and there are 1 or more ACE records has an address change</p> <p>The BFT why code = 4</p> <p>the BFT sampling rate = N2</p> <p>the current unsampled count = previous count + 1</p>	
8	<p>The system shall not send the cluster to the BFT stage if none of the above conditions are met (test 1-5 failed).</p> <p>BFT sampling rate = N2</p> <p>BFA sampling rate = N2</p> <p>the current unsampled count = previous count + 1</p> <p>this cluster skips BFA and is tested for FU</p>	

If old stage is BFC and analyst worked as a clerk:

BFU next stage logic analysts working as clerks		
Table 6.2		
Requirement Number	Requirement	Source/Notes
1	The system shall send the cluster to the BFT stage if analyst works as a clerk and one or more record has an RV code The BFT why code = 2 BFT sampling rate = 0	Gunnison HU MaRCS SW spec
2	The system shall not send the cluster to the BFT stage if an analyst worked as a clerk and there are no RV codes. BFT sampling rate = 0 BFA sampling rate = 0 this cluster skips BFA and is tested for FU	

If old stage is BFT and tech (not analyst) worked the cluster:

BFU next stage logic Techs		
Table 6.3		
Requirement Number	Requirement	Source/Notes
1	Test 1. The system shall send the cluster to the BFA stage if cluster came to BFT as must do and tech's sample approval flag = 0 (this tech is in 100% QA) The BFA why code = 6 BFA sampling rate = N5 (tech sampling rate)	Gunnison HU MaRCS SW spec clusters that came to BFT because of must do reasons
2	Test 2. The system shall send the cluster to the BFA stage if test 1 failed and cluster came to BFT as must do and tech's sample approval flag = 1 and there are 1 or more records coded RV The BFA why code = 6 the BFA sampling rate = N5 the current unsampled count = previous count	
3	Test 2(cont). The system shall send the cluster to the BFA stage if test 1 failed and cluster came to BFT as must do and tech's sample approval flag = 1 and Tech changed 50% or more of clerk's records The BFA why code = 6 the BFA sampling rate = N5 the current unsampled count = previous count	
4	Test 2(cont). The system shall send the cluster to the BFA stage if test 1 failed and cluster came to BFT as must do and tech's sample approval flag = 1 and one or more ACE records has match code = ZI The BFA why code = 6 the BFA sampling rate = N5 the current unsampled count = previous count	

**BFU next stage logic
Techs**

Table 6.3

Requirement Number	Requirement	Source/Notes
5	Test 2(cont). The system shall send the cluster to the BFA stage if test 1 failed and cluster came to BFT as must do and tech's sample approval flag = 1 and one or more ACE records has HI match code = ZM The BFA why code = 6 the BFA sampling rate = N5 the current unsampled count = previous count	
6	Test 3. The system shall not send the cluster to the BFA stage if test 1 and 2 failed and cluster came to BFT stage for must do reasons and tech's sample approval flag = 1 New stage = this cluster is tested for FU the BFA sampling rate = N5 the current unsampled count = previous count	
7	Test 4. The system shall send the cluster to the BFA stage if test 1-3 failed and tech's sample approval flag = 0 from the Monitor User Proficiency screen (this tech is in 100% QA) The BFA why code = 1 BFA sampling rate = 1	clusters that came to the BFT stage because of "selected for QA"
8	Test 4(cont). The system shall send the cluster to the BFA stage if test 1-3 failed and tech's sample approval flag = 0 from the QA Parameters screen (all tech's are in 100% QA) The BFA why code = 1 BFA sampling rate = 1	

**BFU next stage logic
Techs**

Table 6.3

Requirement Number	Requirement	Source/Notes
9	<p>Test 5. The system shall send the cluster to the BFA stage if test 1-4 failed and tech's sample approval flag = 1 from the previous sampling decision screen (this tech is in sampling QA) and the number of unsampled clusters worked by the tech since the last sampling decision is one less than N5 (tech's sampling rate BFU from QA Parameters screen)</p> <p>The BFA why code = 1 reset count of unsampled clusters = 0 sampling rate = N5</p>	this tech is in sampling from the last decision there were less than the Max Change changes counted
10	<p>Test 5(cont). The system shall send the cluster to the BFA stage if test 1-4 failed and tech's sample approval flag = 1 from the Monitor User Proficiency screen (this tech is in sampling QA) and the number of unsampled clusters worked by the tech since the last sampling decision is one less than N5 (tech's sampling rate BFU from QA Parameters screen)</p> <p>The BFA why code = 1 reset count of unsampled clusters = 0 sampling rate = N5</p>	this tech is in sampling from a manual override at the Monitor User proficiency screen they were previously in 100% QA
11	<p>Test 6. The system shall send the cluster to the BFA stage if test 1-5 failed and tech's sample approval flag = 1 and there are 1 or more records coded RV</p> <p>The BFA why code = 2 the BFA sampling rate = N5 the current unsampled count = previous count + 1</p>	

**BFU next stage logic
Techs**

Table 6.3

Requirement Number	Requirement	Source/Notes
12	<p>Test 7. The system shall send the cluster to the BFA stage if test 1-6 failed and tech's sample approval flag = 1 and there are 1 or more records with ZI code</p> <p>The BFA why code = 3 the BFA sampling rate = N5 the current unsampled count = previous count + 1</p>	
13	<p>Test 8. The system shall send the cluster to the BFA stage if test 1-7 failed and tech's sample approval flag = 1 and there are 1 or more records with ZM code</p> <p>The BFA why code = 4 the BFA sampling rate = N5 the current unsampled count = previous count + 1</p>	
14	<p>Test 9. The system shall send the cluster to the BFA stage if test 1-8 failed and tech's sample approval flag = 1 and the number of records (ACE + Census) changed by the Tech is 50% or more of the number of Clerk records worked</p> <p>The BFA why code = 5 the BFA sampling rate = N5 the current unsampled count = previous count + 1</p>	
15	<p>The system shall not send the cluster to the BFA stage if none of the above conditions are met (test 1-6 failed).</p> <p>BFA sampling rate = N5 the current unsampled count = previous count + 1 this cluster is tested for FU</p>	

If old stage is BFT and analyst worked as tech:

BFU next stage logic analysts working as techs		
Table 6.4		
Requirement Number	Requirement	Source/Notes
1	The system shall send the cluster to the BFA stage if cluster came to BFT stage as "selected for QA" and analyst works as a tech and one or more record has an RV code The BFA why code = 2 BFA sampling rate = 0	Gunnison HU MaRCS SW spec
2	The system shall send the cluster to the BFA stage if the cluster came to BFT stage for must do reasons and analyst works as a tech and one or more record has an RV code The BFA why code = 2 BFA sampling rate = 0	
3	The system shall not send the cluster to the BFA stage if an analyst worked as a tech and cluster came to BFT as "selected for QA" and there are no RV codes. BFA sampling rate = 0 this cluster is tested for FU	
4	The system shall not send the cluster to the BFA stage if an analyst worked as a tech and cluster came to BFT for must do reasons and there are no RV codes. BFA sampling rate = 0 this cluster is tested for FU	

If old stage is AFC and clerk or tech worked the cluster:

AFU next stage logic clerks and techs working as clerks		
Table 6.5		
Requirement Number	Requirement	Source/Notes
1	Test 1. The system shall send the cluster to the AFT stage if clerk's sample approval flag = 0 from the Monitor User Proficiency screen (this clerk is in 100% QA) The AFT why code = 1 AFT sampling rate = 1	Gunnison HU MaRCS SW spec
2	Test 1(cont). The system shall send the cluster to the AFT stage if clerk's sample approval flag = 0 from the QA Parameters screen (all clerk's are in 100% QA) The AFT why code = 1 AFT sampling rate = 1	
3	Test 2. The system shall send the cluster to the AFT stage if test 1 failed and clerk's sample approval flag = 1 from the previous sampling decision screen (this clerk is in sampling QA) and the number of unsampled clusters worked by the clerk since the last sampling decision is one less than N2 (clerk's sampling rate AFU from QA Parameters screen) The AFT why code = 1 reset count of unsampled clusters = 0 AFT sampling rate = N2	this clerk is in sampling from the last decision, there were less than the Max Change changes counted

**AFU next stage logic
clerks and techs working as clerks**

Table 6.5

Requirement Number	Requirement	Source/Notes
4	<p>Test 2(cont). The system shall send the cluster to the AFT stage if test 1 failed and clerk's sample approval flag = 1 from the Monitor User Proficiency screen (this clerk is in sampling QA) and the number of unsampled clusters worked by the clerk since the last sampling decision is one less than N2 (clerk's sampling rate AFU from QA Parameters screen)</p> <p>The AFT why code = 1 reset count of unsampled clusters = 0 AFT sampling rate = N2</p>	<p>this clerk is in sampling from a manual override at the Monitor User proficiency screen they were previously in 100% QA</p>
5	<p>Test 3. The system shall send the cluster to the AFT stage if test 1 and 2 failed and clerk's sample approval flag = 1 and there are 1 or more records coded RV</p> <p>The AFT why code = 2 the AFT sampling rate = N2 the current unsampled count = previous count + 1</p>	
6	<p>Test 4. The system shall send the cluster to the AFT stage if test 1-3 failed and clerk's sample approval flag = 1 and the number of GI's is at greater than or equal to 80% of the sum of M + GI + CI records</p> <p>The AFT why code = 3 the AFT sampling rate = N2 the current unsampled count = previous count + 1</p>	

**AFU next stage logic
clerks and techs working as clerks**

Table 6.5

Requirement Number	Requirement	Source/Notes
7	<p>The system shall not send the cluster to the AFT stage if none of the above conditions are met (test 1-4 failed).</p> <p>AFT sampling rate = N2</p> <p>AFA sampling rate = N2</p> <p>the current unsampled count = previous count + 1</p> <p>this cluster is finished (FIN)</p>	

If old stage is AFC and analyst worked the cluster:

AFU next stage logic analysts working as clerks		
Table 6.6		
Requirement Number	Requirement	Source/Notes
1	The system shall send the cluster to the AFT stage if analyst works as a clerk and one or more record has an RV code The AFT why code = 2 AFT sampling rate = 0	Gunnison HU MaRCS SW spec
2	The system shall not send the cluster to the AFT stage if an analyst worked as a clerk and there are no RV codes. AFT sampling rate = 0 AFA sampling rate = 0 this cluster skips AFA and is finished (FIN)	

If old stage is AFT and tech (not analyst) worked the cluster:

AFU next stage logic Techs		
Table 6.7		
Requirement Number	Requirement	Source/Notes
1	Test 1. The system shall send the cluster to the AFA stage if cluster came to AFT as must do and tech's sample approval flag = 0 (this tech is in 100% QA) The AFA why code = 5 AFA sampling rate = N5 (tech sampling rate)	Gunnison HU MaRCS SW spec clusters that came to AFT because of must do reasons
2	Test 2. The system shall send the cluster to the AFA stage if test 1 failed and cluster came to AFT as must do and tech's sample approval flag = 1 and there are 1 or more records coded RV The AFA why code = 5 the AFA sampling rate = N5 the current unsampled count = previous count	
3	Test 2(cont). The system shall send the cluster to the AFA stage if test 1 failed and cluster came to AFT as must do and tech's sample approval flag = 1 and Tech changed 50% or more of clerk's records The AFA why code = 5 the AFA sampling rate = N5 the current unsampled count = previous count	
4	Test 2(cont). The system shall send the cluster to the AFA stage if test 1 failed and cluster came to AFT as must do and tech's sample approval flag = 1 and one or more ACE records has HI match code = ZM and BFU final code not equal to ZM The AFA why code = 5 the AFA sampling rate = N5 the current unsampled count = previous count	

AFU next stage logic
Techs

Table 6.7

Requirement Number	Requirement	Source/Notes
5	Test 3. The system shall not send the cluster to the AFA stage if test 1 and 2 failed and cluster came to AFT stage for must do reasons and tech's sample approval flag = 1 New stage = FIN the AFA sampling rate = N5 the current unsampled count = previous count	
6	Test 4. The system shall send the cluster to the AFA stage if test 1-3 failed and tech's sample approval flag = 0 from the Monitor User Proficiency screen (this tech is in 100% QA) The AFA why code = 1 AFA sampling rate = 1	clusters that came to AFT because of "selected for QA"
7	Test 4(cont). The system shall send the cluster to the AFA stage if test 1-3 failed and tech's sample approval flag = 0 from the QA Parameters screen (all tech's are in 100% QA) The AFA why code = 1 AFA sampling rate = 1	
8	Test 5. The system shall send the cluster to the AFA stage if test 1-4 failed and tech's sample approval flag = 1 from the previous sampling decision screen (this tech is in sampling QA) and the number of unsampled clusters worked by the tech since the last sampling decision is one less than N5 (tech's sampling rate AFU from QA Parameters screen) The AFA why code = 1 reset count of unsampled clusters = 0 sampling rate = N5	this tech is in sampling from the last decision there were less than the Max Change changes counted

AFU next stage logic
Techs

Table 6.7

Requirement Number	Requirement	Source/Notes
9	<p>Test 5(cont). The system shall send the cluster to the AFA stage if test 1-4 failed and tech's sample approval flag = 1 from the Monitor User Proficiency screen (this tech is in sampling QA) and the number of unsampled clusters worked by the tech since the last sampling decision is one less than N5 (tech's sampling rate AFU from QA Parameters screen)</p> <p>The AFA why code = 1 reset count of unsampled clusters = 0 sampling rate = N5</p>	this tech is in sampling from a manual override at the Monitor User proficiency screen they were previously in 100% QA
10	<p>Test 6. The system shall send the cluster to the AFA stage if test 1-5 failed and tech's sample approval flag = 1 and there are 1 or more records coded RV</p> <p>The AFA why code = 2 the AFA sampling rate = N5 the current unsampled count = previous count + 1</p>	
11	<p>Test 7. The system shall send the cluster to the AFA stage if test 1-6 failed and tech's sample approval flag = 1 and the number of records (ACE + Census) changed by the Tech is 50% or more of the number of Clerk records worked</p> <p>The AFA why code = 3 the AFA sampling rate = N5 the current unsampled count = previous count + 1</p>	

AFU next stage logic
Techs

Table 6.7

Requirement Number	Requirement	Source/Notes
12	<p>Test 8. The system shall send the cluster to the AFA stage if test 1-7 failed and tech's sample approval flag = 1 and one or more records are new ZM's (not coded ZM in BFU)</p> <p>The AFA why code = 4 the AFA sampling rate = N5 the current unsampled count = previous count + 1</p>	
13	<p>The system shall not send the cluster to the AFA stage if none of the above conditions are met (test 1-5 failed).</p> <p>AFA sampling rate = N5 the current unsampled count = previous count + 1 this cluster skips AFA and is finished (FIN)</p>	

If old stage is AFT and analyst worked as tech:

AFU next stage logic analysts working as techs		
Table 6.8		
Requirement Number	Requirement	Source/Notes
1	The system shall send the cluster to the AFA stage if analyst works as a tech and cluster came to AFT as "selected for QA" and one or more record has an RV code The AFA why code = 2 AFA sampling rate = 0	Gunnison HU MaRCS SW spec
2	The system shall send the cluster to the AFA stage if analyst works as a tech and cluster came to AFT for must do reasons and one or more record has an RV code The AFA why code = 2 AFA sampling rate = 0	
3	The system shall not send the cluster to the AFA stage if an analyst worked as a tech and cluster came to AFT as "selected for QA" and there are no RV codes. AFA sampling rate = 0 this cluster skips AFA and is finished (FIN)	
4	The system shall not send the cluster to the AFA stage if an analyst worked as a tech and cluster came to AFT for must do reasons and there are no RV codes. AFA sampling rate = 0 this cluster skips AFA and is finished (FIN)	

Section 7 BFU Clerk QA Logic

Table 7.1: This table documents the testing of the BFU Clerk QA logic. This corresponds to the specifications in the Gunnison HU MaRCS Software Specifications, chapter 2.4.1.

BFU Clerk QA Logic records that add to the change count		
Table 7.1		
Requirement Number	Requirement	Source/Notes
1	the system shall count the records worked by a clerk by summing all ACE records and Census records with a Clerk Worked Flag=C	Gunnison HU MaRCS SW spec
2	the system shall reset the Change Count to 0 for each cluster	
3	The system shall increase the change count by 1 if the ACE record has BFC Match Code=M and HICODE=P and BFCCID eq HICID	ACE units
4	The system shall increase the change count by 1 if the ACE record has BFC Match Code=M and HICODE=P and BFCCID ne HICID	
5	The system shall increase the change count by 1 if the ACE record has BFC Match Code=M and HICODE=NI	
6	The system shall increase the change count by 1 if the ACE record has BFC Match Code=M and HICODE=ZM	
7	The system shall increase the change count by 1 if the ACE record has BFC Match Code=M and HICODE=M and BFCCID= blank and HICID ne CMCID	
8	The system shall increase the change count by 1 if the ACE record has BFC Match Code=M and HICODE=M and BFCCID ne blank and HICID ne BFCCID	

BFU Clerk QA Logic
records that add to the change count

Table 7.1

Requirement Number	Requirement	Source/Notes
9	The system shall increase the change count by 1 if the ACE record has BFC Match Code=P and HICODE=ZM	
10	The system shall increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE =M	
11	The system shall increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE=ZM	
12	The system shall increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE=DI and primary's BFC Match Code is blank	
13	The system shall increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE=DI and primary's BFC Match Code =M	
14	The system shall increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE=DI and primary's BFC Match Code=P	
15	The system shall increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE=DI and primary's BFC Match Code=NI	
16	The system shall increase the change count by 1 if the ACE record has BFC Match Code=DI and HICODE= M	
17	The system shall increase the change count by 1 if the ACE record has BFC Match Code = DI and HICODE = P	

BFU Clerk QA Logic
records that add to the change count

Table 7.1

Requirement Number	Requirement	Source/Notes
18	The system shall increase the change count by 1 if the ACE record has BFC Match Code=DI and HICODE=NI	
19	The system shall increase the change count by 1 if the ACE record has BFC Match Code=DI and HICODE=ZM	
20	The system shall increase the change count by 1 if the Census record has BFC Match Code=NE and HICODE= DE and primary's BFC Match Code is blank	Census units
21	The system shall increase the change count by 1 if the Census record has BFC Match Code=NE and HICODE= DE and primary's BFC Match Code=M	
22	The system shall increase the change count by 1 if the Census record has BFC Match Code=NE and HICODE= DE and primary's BFC Match Code=P	
23	The system shall increase the change count by 1 if the Census record has BFC Match Code=NE and HICODE= DE and primary's BFC Match Code=NE	
24	The system shall increase the change count by 1 if the Census record has BFC Match Code=DE and HICODE = P	
25	The system shall increase the change count by 1 if the Census record has BFC Match Code=DE and HICODE = NE	

Table 7.2 : BFU Clerical codes vs tech or analyst HICODE, records that do not contribute to the change count. See DSSD Census 2000 Procedures and Operations Memorandum Series, Chapter S-QA-09d3, MaRCS Specifications for Quality Assurance (QA) for Housing Unit Matching, draft 3 Attachment A, tables 1 and 2.

BFU Clerk QA Logic records that do not add to the change count		
Table 7.2		
Requirement Number	Requirement	Source/Notes
1	The system shall not increase the change count by 1 if ACE record has BFC Match Code = M and HICODE = M and BFCCID eq HICID	S-QA-09d3 ACE units
2	The system shall not increase the change count by 1 if ACE record has BFC Match Code = M and HICODE = DI	
3	The system shall not increase the change count by 1 if ACE record has BFC Match Code = M and HICODE = ZI	
4	The system shall not increase the change count by 1 if ACE record has BFC Match Code = P and HICODE = M and BFCCID eq HICID	
5	The system shall not increase the change count by 1 if ACE record has BFC Match Code = P and HICODE = M and BFCCID ne HICID	
6	The system shall not increase the change count by 1 if ACE record has BFC Match Code = P and HICODE = P and BFCCID eq HICID	
7	The system shall not increase the change count by 1 if ACE record has BFC Match Code = P and HICODE = P and BFCCID ne HICID	

BFU Clerk QA Logic
records that do not add to the change count

Table 7.2

Requirement Number	Requirement	Source/Notes
8	The system shall not increase the change count by 1 if ACE record has BFC Match Code = P and HICODE = NI	
9	The system shall not increase the change count by 1 if ACE record has BFC Match Code = P and HICODE = DI	
10	The system shall not increase the change count by 1 if ACE record has BFC Match Code = P and HICODE = ZI	
11	The system shall not increase the change count by 1 if ACE record has BFC Match Code = NI and HICODE = P	
12	The system shall not increase the change count by 1 if ACE record has BFC Match Code = NI and HICODE = NI	
13	The system shall not increase the change count by 1 if ACE record has BFC Match Code = NI and HICODE = ZI	
14	The system shall not increase the change count by 1 if ACE record has BFC Match Code = DI and HICODE = DI	
15	The system shall not increase the change count by 1 if ACE record has BFC Match Code = DI and HICODE = ZI	
16	The system shall not increase the change count by 1 if ACE record has BFC Match Code = RV and HICODE = M	
17	The system shall not increase the change count by 1 if ACE record has BFC Match Code = RV and HICODE = P	

BFU Clerk QA Logic
records that do not add to the change count

Table 7.2

Requirement Number	Requirement	Source/Notes
18	The system shall not increase the change count by 1 if ACE record has BFC Match Code = RV and HICODE = NI	
19	The system shall not increase the change count by 1 if ACE record has BFC Match Code = RV and HICODE = DI	
20	The system shall not increase the change count by 1 if ACE record has BFC Match Code = RV and HICODE = ZI	
21	The system shall not increase the change count by 1 if ACE record has BFC Match Code = RV and HICODE = ZM	
22	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM=M and HICODE = M and BFCCID eq HICID	
23	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM=M and HICODE = M and BFCCID ne HICID	
24	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM=M and HICODE = P and BFCCID eq HICID	
25	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM=M and HICODE = P and BFCCID ne HICID	
26	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM = M and HICODE = NI	

BFU Clerk QA Logic
records that do not add to the change count

Table 7.2

Requirement Number	Requirement	Source/Notes
27	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM = M and HICODE = DI	
28	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM = M and HICODE = ZI	
29	The system shall not increase the change count by 1 if ACE record has BFC Match Code = blank CM = M and HICODE = ZM	
30	The system shall not increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE=DI and primary's BFC Match Code is DI	
31	The system shall not increase the change count by 1 if the ACE record has BFC Match Code=NI and HICODE=DI and primary's BFC Match Code is RV	
32	The system shall not increase the change count by 1 if Census record has BFC Match Code = M and HICODE = M and matched to same ACE record	Census Units
33	The system shall not increase the change count by 1 if Census record has BFC Match Code = M and HICODE = M and matched to different ACE record	
34	The system shall not increase the change count by 1 if Census record has BFC Match Code = M and HICODE = P and linked to same ACE record	

BFU Clerk QA Logic
records that do not add to the change count

Table 7.2

Requirement Number	Requirement	Source/Notes
35	The system shall not increase the change count by 1 if Census record has BFC Match Code = M and HICODE = P and linked to different ACE record	
36	The system shall not increase the change count by 1 if Census record has BFC Match Code = M and HICODE = NE	
37	The system shall not increase the change count by 1 if Census record has BFC Match Code = M and HICODE = DE	
38	The system shall not increase the change count by 1 if Census record has BFC Match Code = P and HICODE = M and linked to same ACE record	
39	The system shall not increase the change count by 1 if Census record has BFC Match Code = P and HICODE = M and linked to different ACE record	
40	The system shall not increase the change count by 1 if Census record has BFC Match Code = P and HICODE = P and linked to the same ACE record	
41	The system shall not increase the change count by 1 if Census record has BFC Match Code = P and HICODE = P and linked to a different ACE record	
42	The system shall not increase the change count by 1 if Census record has BFC Match Code = P and HICODE = NE	
43	The system shall not increase the change count by 1 if Census record has BFC Match Code = P and HICODE = DE	

BFU Clerk QA Logic
records that do not add to the change count

Table 7.2

Requirement Number	Requirement	Source/Notes
44	The system shall not increase the change count by 1 if Census record has BFC Match Code = NE and HICODE = M	
45	The system shall not increase the change count by 1 if Census record has BFC Match Code = NE and HICODE = P	
46	The system shall not increase the change count by 1 if Census record has BFC Match Code = NE and HICODE = NE	
47	The system shall not increase the change count by 1 if Census record has BFC Match Code = DE and HICODE = M	
48	The system shall not increase the change count by 1 if Census record has BFC Match Code = DE and HICODE = DE	
49	The system shall not increase the change count by 1 if Census record has BFC Match Code = RV and HICODE = M	
50	The system shall not increase the change count by 1 if Census record has BFC Match Code = RV and HICODE = P	
51	The system shall not increase the change count by 1 if Census record has BFC Match Code = RV and HICODE = NE	
52	The system shall not increase the change count by 1 if Census record has BFC Match Code = RV and HICODE = DE	
53	The system shall not increase the change count by 1 if the Census record has BFC Match Code=NE and HICODE= DE and primary's BFC Match Code is DE	

BFU Clerk QA Logic
records that do not add to the change count

Table 7.2

Requirement Number	Requirement	Source/Notes
54	The system shall not increase the change count by 1 if the Census record has BFC Match Code=NE and HICODE= DE and primary's BFC Match Code is RV	
55	The system shall not increase the change count by 1 if Census record has BFC Match Code = blank CM=M and HICODE = M and linked to the same ACE record	
56	The system shall not increase the change count by 1 if Census record has BFC Match Code = blank CM=M and HICODE = M and linked to a different ACE record	
57	The system shall not increase the change count by 1 if Census record has BFC Match Code = blank and CM = M and HICODE = P and linked to the same ACE record	
58	The system shall not increase the change count by 1 if Census record has BFC Match Code = blank and CM=M and HICODE = P and linked to a different ACE record	
59	The system shall not increase the change count by 1 if Census record has BFC Match Code = blank and CM = M and HICODE = NE	
60	The system shall not increase the change count by 1 if Census record has BFC Match Code = blank and CM = M and HICODE = DE	

Table 7.3: Update Clerk Table

The following table documents the test plan for the Make Sampling Decisions sections from the Gunnison HU MaRCS Software specification, Chapter 2.4.1 p.2-19 - 2-20.

The expected results in these tables will either be displayed on the Monitor User Proficiency screen (when counts and percents of changes are expected) or will be evident by the results of the next stage logic.

BFU Clerk Logic		
Table 7.3		
Requirement Number	Requirement	Source/Notes
1	Add records worked in the cluster to BFU Full Total Records	Gunnison's HU MaRCS Software Specifications
2	Add records worked in the cluster to BFU Last Total Records	
3	Add Change Count to BFU Full Changes	
4	Add Change Count to BFU Last Changes	
5	Calculate BFU Full % Changes = BFU Full Changes/BFU Full Total Records	
6	Calculate BFU Last % Changes = BFU Last Changes/BFU Last Total Records	
7	If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is less than or equal to the Maximum change rate, the system shall: change the sampling approval flag = 1 set Last total records = 0 reset the Last Changes = 0 reset the Last % changes = 0	

BFU Clerk Logic

Table 7.3

8	<p>If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is greater than the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
9	<p>If the Sample Approval Flag = 0 and the Last Total Records is less than the minimum records worked and reviewed, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
10	<p>If the Sample Approval Flag = 1 and the Last total records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is greater than the Maximum change rate, the system shall: change the sampling approval flag = 0 set Last Total Records = 0 reset the Last Changes = 0 reset the Last % Changes = 0</p>	
11	<p>If the Sample Approval Flag = 1 and the Last Total Records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is less than or equal to the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	

BFU Clerk Logic		
Table 7.3		
12	<p>If the Sample Approval Flag = 1 and the Last total records is less than the minimum records worked and reviewed for subsequent sampling re-evaluation, the system shall not change any of the counts or flags.</p> <p>The Sample Approval Flag, BFU Last total records, BFU Last Changes, and the BFU Last % changes remain the same</p>	

Section 8 BFU Tech QA Logic

Table 8.1: This table documents the testing of the BFU Tech QA logic. This corresponds to the specifications in the Gunnison HU MaRCS Software Specifications, chapter 2.4.2.

BFU Tech QA Logic records that add to change count		
Table 8.1		
Requirement Number	Requirement	Source/Notes
1	the system shall count the records worked by a tech by summing all ACE records and Census records with a Tech Worked Flag=C	Gunnison HU MaRCS SW spec
2	the system shall reset the Change Count to 0 for each cluster	
3	The system shall increase the change count by 1 if ACE record has BFT Match Code = M and HICODE =P and BFTCID eq HICID	ACE units
4	The system shall increase the change count by 1 if ACE record has BFT Match Code = M and HICODE =P and BFTCID ne HICID	
5	The system shall increase the change count by 1 if ACE record has BFT Match Code=M and HICODE=NI	
6	The system shall increase the change count by 1 if ACE record has BFT Match Code=M and HICODE=ZI	
7	The system shall increase the change count by 1 if ACE record has BFT Match Code = M and HICODE = ZM	
8	The system shall increase the change count by 1 if ACE record has BFT Match Code=M and HICODE=M and BFTCID= blank and BFCCID = blank and HICID ne CMCID	
9	The system shall increase the change count by 1 if ACE record has BFT Match Code=M and HICODE=M and BFTCID=blank and BFCCID ne blank and HICID ne BFCCID	

**BFU Tech QA Logic
records that add to change count**

Table 8.1

Requirement Number	Requirement	Source/Notes
10	The system shall increase the change count by 1 if ACE record has BFT Match Code=M and HICODE = M and BFTCID ne blank and HICID ne BFTCID	
11	The system shall increase the change count by 1 if ACE record has BFT Match Code = P and HICODE = ZM	
12	The system shall increase the change count by 1 if ACE record has BFT Match Code=P and HICODE= ZI	
13	The system shall increase the change count by 1 if ACE record has BFT Match Code= NI and HICODE = M	
14	The system shall increase the change count by 1 if ACE record has BFT Match Code=NI and HICODE=ZI	
15	The system shall increase the change count by 1 if ACE record has BFT Match Code=NI and HICODE=ZM	
16	The system shall increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = DI and primary's BFT Match Code is blank	
17	The system shall increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = DI and primary's BFT Match Code=M	
18	The system shall increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = DI and primary's BFT Match Code=P	
19	The system shall increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = DI and primary's BFT Match Code=NI	
20	The system shall increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = DI and primary's BFT Match Code=ZI	

BFU Tech QA Logic
records that add to change count

Table 8.1

Requirement Number	Requirement	Source/Notes
21	The system shall increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = DI and primary's BFT Match Code=ZM	
22	The system shall increase the change count by 1 if ACE record has BFT Match Code =DI and HICODE= M	
23	The system shall increase the change count by 1 if ACE record has BFT Match Code =DI and HICODE=P	
24	The system shall increase the change count by 1 if ACE record has BFT Match Code =DI and HICODE=NI	
25	The system shall increase the change count by 1 if ACE record has BFT Match Code =DI and HICODE = ZI	
26	The system shall increase the change count by 1 if ACE record has BFT Match Code = DI and HICODE = ZM	
27	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = DI and HICODE=M	
28	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = DI and HICODE=P	
29	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = DI and HICODE=NI	
30	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = DI and HICODE=ZM	
31	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = M	
32	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = P	

**BFU Tech QA Logic
records that add to change count**

Table 8.1

Requirement Number	Requirement	Source/Notes
33	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = NI	
34	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = ZM	
35	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code is blank	
36	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code =M	
37	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code =P	
38	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code =NI	
39	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code =ZI	
40	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code =ZM	
41	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = M	
42	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = P	
43	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = NI	
44	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = ZI	

BFU Tech QA Logic
records that add to change count

Table 8.1

Requirement Number	Requirement	Source/Notes
45	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = DI and primary's BFT Match Code is blank	
46	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = DI and primary's BFT Match Code =M	
47	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = DI and primary's BFT Match Code =P	
48	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = DI and primary's BFT Match Code =NI	
49	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = DI and primary's BFT Match Code =ZI	
50	The system shall increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = DI and primary's BFT Match Code =ZM	
51	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code=M and HICODE = M and BFTCID=blank and BFCCID = blank and HICID ne CMCID	
52	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code=M and HICODE = M and BFCCID ne blank and HICID ne BFCCID	
53	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = M and HICODE = P and BFCCID eq HICID	

BFU Tech QA Logic
records that add to change count

Table 8.1

Requirement Number	Requirement	Source/Notes
54	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = M and HICODE = P and BFCCID ne HICID	
55	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = M and HICODE = NI	
56	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code =M and HICODE=ZI	
57	The system shall increase the change count by 1 if ACE record has BFT Match Code =blank and BFC Match Code = M and HICODE=ZM	
58	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code =P and HICODE= ZI	
59	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = P and HICODE=ZM	
60	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code= NI and HICODE = M	
61	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code=NI and HICODE=ZI	
62	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = NI and HICODE=ZM	

BFU Tech QA Logic
records that add to change count

Table 8.1

Requirement Number	Requirement	Source/Notes
63	The system shall increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = NI and HICODE=DI and primary's BFC Match Code is not DI or RV and primary's BFT Match Code is not DI or RV	note primary's BFC=M,P,NI, blank BFT=M,P,NI,ZI, ZM, blank
64	The system shall increase the change count by 1 if Census record has BFT Match Code = NE and HICODE = DE and primary's BFT Match Code is blank	Census units
65	The system shall increase the change count by 1 if Census record has BFT Match Code = NE and HICODE = DE and primary's BFT Match Code =M	
66	The system shall increase the change count by 1 if Census record has BFT Match Code = NE and HICODE = DE and primary's BFT Match Code=P	
67	The system shall increase the change count by 1 if Census record has BFT Match Code = NE and HICODE = DE and primary's BFT Match Code =NI	
68	The system shall increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code = NE and HICODE = DE and primary's BFC Match Code is not DE or RV and primary's BFT Match Code is not DE or RV	note: primary's BFC=M,P,NE, blank BFT=M,P, NE, blank
69	The system shall increase the change count by 1 if Census record has BFT Match Code = DE and HICODE = P	
70	The system shall increase the change count by 1 if Census record has BFT Match Code = DE and HICODE = NE	
71	The system shall increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code = DE and HICODE = P	

BFU Tech QA Logic
records that add to change count

Table 8.1

Requirement Number	Requirement	Source/Notes
72	The system shall increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code = DE and HICODE = NE	

Table 8.2 : BFU Tech codes vs analyst HICODE, records that do not contribute to the change count. See DSSD Census 2000 Procedures and Operations Memorandum Series, Chapter S-QA-09d3, MaRCS Specifications for Quality Assurance (QA) for Housing Unit Matching, draft 3 Attachment A, tables 5, 6, 7 and 8.

BFU Tech QA Logic records that do not add to the change count		
Table 8.2		
Requirement Number	Requirement	Source/Notes
1	The system shall not increase the change count by 1 if ACE record has BFT Match Code = M and HICODE = M and BFTCID eq HICID	S-QA-09d3 ACE units
2	The system shall not increase the change count by 1 if ACE record has BFT Match Code = M and HICODE = DI	
3	The system shall not increase the change count by 1 if ACE record has BFT Match Code = P and HICODE = M and BFTCID eq HICID	
4	The system shall not increase the change count by 1 if ACE record has BFT Match Code = P and HICODE = M and BFTCID ne HICID	
5	The system shall not increase the change count by 1 if ACE record has BFT Match Code = P and HICODE = P and BFTCID eq HICID	
6	The system shall not increase the change count by 1 if ACE record has BFT Match Code = P and HICODE = P and BFTCID ne HICID	
7	The system shall not increase the change count by 1 if ACE record has BFT Match Code = P and HICODE = NI	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
8	The system shall not increase the change count by 1 if ACE record has BFT Match Code = P and HICODE = DI	
9	The system shall not increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = P	
10	The system shall not increase the change count by 1 if ACE record has BFT Match Code = NI and HICODE = NI	
11	The system shall not increase the change count by 1 if ACE record has BFT Match Code = DI and HICODE = DI	
12	The system shall not increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = ZI	
13	The system shall not increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code = DI	
14	The system shall not increase the change count by 1 if ACE record has BFT Match Code = ZI and HICODE = DI and primary's BFT Match Code = RV	
15	The system shall not increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = ZM	
16	The system shall not increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE = DI and primary's BFT Match Code = DI	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
17	The system shall not increase the change count by 1 if ACE record has BFT Match Code = ZM and HICODE =DI and primary's BFT Match Code = RV	
18	The system shall not increase the change count by 1 if ACE record has BFT Match Code = RV and HICODE = M	
19	The system shall not increase the change count by 1 if ACE record has BFT Match Code = RV and HICODE = P	
20	The system shall not increase the change count by 1 if ACE record has BFT Match Code = RV and HICODE = NI	
21	The system shall not increase the change count by 1 if ACE record has BFT Match Code = RV and HICODE = DI	
22	The system shall not increase the change count by 1 if ACE record has BFT Match Code = RV and HICODE = ZI	
23	The system shall not increase the change count by 1 if ACE record has BFT Match Code = RV and HICODE = ZM	
24	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM=M and HICODE = M and BFTCID eq HICID	
25	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM=M and HICODE = M and BFTCID ne HICID	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
26	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM=M and HICODE = P and BFTCID eq HICID	
27	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM=M and HICODE = P and BFTCID ne HICID	
28	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM = M and HICODE = NI	
29	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM = M and HICODE = DI	
30	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM = M and HICODE = ZI	
31	The system shall not increase the change count by 1 if ACE record has BFT Match Code = blank and BFC Match Code = blank and CM = M and HICODE = ZM	
32	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=NI and HICODE=DI and primary's BFT Match Code is DI	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
33	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code=M and BFCCID eq HICID	
34	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =M and HICODE=DI	
35	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =P and HICODE=M and BFCCID eq HICID	
36	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =P and HICODE=M and BFCCID ne HICID	
37	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =P and HICODE=P and BFCCID eq HICID	
38	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =P and HICODE=P and BFCCID ne HICID	
39	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code = P and HICODE=DI	
40	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =P and HICODE=NI	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
41	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =NI and HICODE = P	
42	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =NI and HICODE=NI	
43	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =NI and HICODE = DI and primary's BFC Match Code is DI and primary's BFT Match Code is DI	
44	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =NI and HICODE = DI and primary's BFC Match Code is DI and primary's BFT Match Code is RV	
45	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =NI and HICODE = DI and primary's BFC Match Code is RV and primary's BFT Match Code is RV	note: check also if primary's BFC is RV or DI and primary's BFT not RV nor DI
46	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =NI and HICODE = DI and primary's BFC Match Code is RV and primary's BFT Match Code is DI	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
47	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=blank and BFC Match Code =DI and HICODE=DI	
48	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=NI and HICODE=DI and primary's BFT Match Code is RV	
49	The system shall not increase the change count by 1 if the ACE record has BFT Match Code=NI and HICODE=DI and primary's BFT Match Code is DI	
50	The system shall not increase the change count by 1 if Census record has BFT Match Code = M and HICODE = M and matched to same ACE record	Census Units
51	The system shall not increase the change count by 1 if Census record has BFT Match Code = M and HICODE = M and matched to different ACE record	
52	The system shall not increase the change count by 1 if Census record has BFT Match Code = M and HICODE = P and linked to same ACE record	
53	The system shall not increase the change count by 1 if Census record has BFT Match Code = M and HICODE = P and linked to different ACE record	
54	The system shall not increase the change count by 1 if Census record has BFT Match Code = M and HICODE = NE	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
55	The system shall not increase the change count by 1 if Census record has BFT Match Code = M and HICODE = DE	
56	The system shall not increase the change count by 1 if Census record has BFT Match Code = P and HICODE = M and linked to same ACE record	
57	The system shall not increase the change count by 1 if Census record has BFT Match Code = P and HICODE = M and linked to different ACE record	
58	The system shall not increase the change count by 1 if Census record has BFT Match Code = P and HICODE = P and linked to the same ACE record	
59	The system shall not increase the change count by 1 if Census record has BFT Match Code = P and HICODE = P and linked to a different ACE record	
60	The system shall not increase the change count by 1 if Census record has BFT Match Code = P and HICODE = NE	
61	The system shall not increase the change count by 1 if Census record has BFT Match Code = P and HICODE = DE	
62	The system shall not increase the change count by 1 if Census record has BFT Match Code = NE and HICODE = M	
63	The system shall not increase the change count by 1 if Census record has BFT Match Code = NE and HICODE = P	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
64	The system shall not increase the change count by 1 if Census record has BFT Match Code = NE and HICODE = NE	
65	The system shall not increase the change count by 1 if Census record has BFT Match Code = DE and HICODE = M	
66	The system shall not increase the change count by 1 if Census record has BFT Match Code = DE and HICODE = DE	
67	The system shall not increase the change count by 1 if Census record has BFT Match Code = RV and HICODE = M	
68	The system shall not increase the change count by 1 if Census record has BFT Match Code = RV and HICODE = P	
69	The system shall not increase the change count by 1 if Census record has BFT Match Code = RV and HICODE = NE	
70	The system shall not increase the change count by 1 if Census record has BFT Match Code = RV and HICODE = DE	
71	The system shall not increase the change count by 1 if the Census record has BFT Match Code=NE and HICODE= DE and primary's BFT Match Code is DE	
72	The system shall not increase the change count by 1 if the Census record has BFT Match Code=NE and HICODE= DE and primary's BFT Match Code is RV	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
73	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=blank and CM=M and HICODE = M and linked to the same ACE record	
74	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=blank and CM=M and HICODE = M and linked to a different ACE record	
75	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=blank and CM = M and HICODE = P and linked to the same ACE record	
76	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=blank and CM=M and HICODE = P and linked to a different ACE record	
77	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=blank and CM = M and HICODE = NE	
78	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=blank and CM = M and HICODE = DE	
79	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=M and HICODE = M and linked to the same ACE record	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
80	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=M and HICODE=M and linked to a different ACE record	
81	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=M and linked to the same ACE record	
82	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=M and linked to a different ACE record	
83	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=M and HICODE=NE	
84	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=M and HICODE=DE	
85	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=M and linked to the same ACE record	
86	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=M and linked to a different ACE record	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
87	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=P and linked to the same ACE record	
88	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=P and linked to a different ACE record	
89	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=NE	
90	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=P and HICODE=DE	
91	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=NE and HICODE=M	
92	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=NE and HICODE=P	
93	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=NE and HICODE=NE	

BFU Tech QA Logic
records that do not add to the change count

Table 8.2

Requirement Number	Requirement	Source/Notes
94	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=NE and HICODE=DE and primary's BFT Match Code=DE and primary's BFC Match Code=DE	
95	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=NE and HICODE=DE and primary's BFT Match Code=DE and primary's BFC Match Code=RV	note: check also if primary's BFC is RV or DE and primary's BFT is not RV nor DE
96	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=NE and HICODE=DE and primary's BFT Match Code=RV and primary's BFC Match Code=DE	
97	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=NE and HICODE=DE and primary's BFT Match Code=RV and primary's BFC Match Code=RV	
98	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=DE and HICODE=M	
99	The system shall not increase the change count by 1 if Census record has BFT Match Code = blank and BFC Match Code=DE and HICODE=DE	

Table 8.3: Update Tech Table

The following table documents the test plan for the Make Sampling Decisions sections from the Gunnison HU MaRCS Software specification, Chapter 2.4.2 p.2-22 - 2-23.

The expected results in these tables will either be displayed on the Monitor User Proficiency screen (when counts and percents of changes are expected) or will be evident by the results of the next stage logic.

2.4.2 BFU Tech Logic		
Table 8.3		
Requirement Number	Requirement	Source/Notes
1	Add records worked in the cluster to BFU Full Total Records	Gunnison's HU MaRCS Software Specifications
2	Add records worked in the cluster to BFU Last Total Records	
3	Add Change Count to BFU Full Changes	
4	Add Change Count to BFU Last Changes	
5	Calculate BFU Full % Changes = BFU Full Changes/BFU Full Total Records	
6	Calculate BFU Last % Changes = BFU Last Changes/BFU Last Total Records	
7	If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is less than or equal to the Maximum change rate, the system shall: change the sampling approval flag = 1 set Last total records = 0 reset the Last Changes = 0 reset the Last % changes = 0	

2.4.2 BFU Tech Logic

Table 8.3

8	<p>If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is greater than the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
9	<p>If the Sample Approval Flag = 0 and the Last Total Records is less than the minimum records worked and reviewed, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
10	<p>If the Sample Approval Flag = 1 and the Last total records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is greater than the Maximum change rate, the system shall: change the sampling approval flag = 0 set Last Total Records = 0 reset the Last Changes = 0 reset the Last % Changes = 0</p>	
11	<p>If the Sample Approval Flag = 1 and the Last Total Records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is less than or equal to the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	

2.4.2 BFU Tech Logic

Table 8.3

12	<p>If the Sample Approval Flag = 1 and the Last total records is less than the minimum records worked and reviewed for subsequent sampling re-evaluation, the system shall not change any of the counts or flags.</p> <p>The Sample Approval Flag, BFU Last total records, BFU Last Changes, and the BFU Last % changes remain the same</p>	
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Section 9 AFU Clerk QA Logic

Table 9.1: This table documents the testing of the AFU Clerk QA logic. This corresponds to the specifications in the Gunnison HU MaRCS Software Specifications, chapter 2.4.3.

<p style="text-align: center;">AFU Clerk QA Logic records that add to the change count</p>		
Table 9.1		
Requirement Number	Requirement	Source/Notes
1	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = CI	Gunnison HU MaRCS Software Specifications, chapter 2.4.3
2	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = ZI	ACE units
3	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE= UI	
4	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE= GI	
5	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE=ZM	
6	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE=M and AFCCID ne blank and AFCCID ne HICID	
7	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE=M and AFCCID = blank and BFACID ne blank and BFACID ne HICID	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
8	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = M and AFCCID = blank and BFACID=blank and BFTCID ne blank and BFTCID ne HICID	
9	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE=M and AFCCID = blank and BFACID = blank and BFTCID = blank and BFCCID ne blank and BFCCID ne HICID	
10	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE= M and AFCCID = blank and BFACID = blank and BFTCID= blank and BFCCID = blank and CMCID ne HICID	
11	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code =M	
12	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code = CI	
13	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code = ZI	
14	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code = UI	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
15	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code = GI	
16	The system shall increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code = MU	
17	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE= M	
18	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = ZI	
19	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = GI	
20	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = MU	
21	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = ZM	
22	The system shall increase the change count by 1 if ACE record has AFC Match Code =CI and HICODE = DI and primary's AFC Match Code =M	
23	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = DI and primary's AFC Match Code = CI	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
24	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = DI and primary's AFC Match Code = ZI	
25	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = DI and primary's AFC Match Code = UI	
26	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = DI and primary's AFC Match Code = GI	
27	The system shall increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = DI and primary's AFC Match Code = MU	
28	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = M	
29	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE= CI	
30	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE=UI	
31	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE=GI	
32	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE=MU	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
33	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE=ZM	
34	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code =M	
35	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code = CI	
36	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code = ZI	
37	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code = UI	
38	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code = GI	
39	The system shall increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code = MU	
40	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = M	
41	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE= ZI	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
42	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE=GI	
43	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE=MU	
44	The system shall increase the change count by 1 if ACE record has AFC Match Code =UI and HICODE=ZM	
45	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code =M	
46	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code = CI	
47	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code = ZI	
48	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code = UI	
49	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code = GI	
50	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code = MU	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
51	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = M	
52	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE= CI	
53	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE=ZI	
54	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE=UI	
55	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE=MU	
56	The system shall increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE=ZM	
57	The system shall increase the change count by 1 if ACE record has AFC Match Code =GI and HICODE = DI and primary's AFC Match Code =M	
58	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = DI and primary's AFC Match Code = CI	
59	The system shall increase the change count by 1 if ACE record has AFC Match Code =GI and HICODE = DI and primary's AFC Match Code = ZI	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
60	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = DI and primary's AFC Match Code = UI	
61	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = DI and primary's AFC Match Code = GI	
62	The system shall increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = DI and primary's AFC Match Code = MU	
63	The system shall increase the change count by 1 if ACE record has AFC Match Code =DI and HICODE=M	
64	The system shall increase the change count by 1 if ACE record has AFC Match Code =DI and HICODE=CI	
65	The system shall increase the change count by 1 if ACE record has AFC Match Code =DI and HICODE=ZI	
66	The system shall increase the change count by 1 if ACE record has AFC Match Code =DI and HICODE=UI	
67	The system shall increase the change count by 1 if ACE record has AFC Match Code =DI and HICODE=GI	
68	The system shall increase the change count by 1 if ACE record has AFC Match Code =DI and HICODE=MU	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
69	The system shall increase the change count by 1 if ACE record has AFC Match Code =DI and HICODE=ZM	
70	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = CI	
71	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE=ZI	
72	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE=UI	
73	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE=GI	
74	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE=ZM	
75	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code =M	
76	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code = CI	
77	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code = ZI	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
78	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code = UI	
79	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code = GI	
80	The system shall increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code = MU	
81	The system shall increase the change count by 1 if the Census record has AFC Match Code=M and HICODE=DE and primary's AFC Match Code=M	census units
82	The system shall increase the change count by 1 if the Census record has AFC Match Code=M and HICODE=DE and primary's AFC Match Code=CE	
83	The system shall increase the change count by 1 if the Census record has AFC Match Code=M and HICODE=DE and primary's AFC Match Code=EE	
84	The system shall increase the change count by 1 if the Census record has AFC Match Code=M and HICODE=DE and primary's AFC Match Code=UE	
85	The system shall increase the change count by 1 if the Census record has AFC Match Code=M and HICODE=DE and primary's AFC Match Code=GE	

**AFU Clerk QA Logic
records that add to the change count**

Table 9.1

Requirement Number	Requirement	Source/Notes
86	The system shall increase the change count by 1 if the Census record has AFC Match Code=M and HICODE=DE and primary's AFC Match Code=MU	
87	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=EE	
88	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=DE and primary's AFC Match Code=M	
89	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=DE and primary's AFC Match Code=CE	
90	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=DE and primary's AFC Match Code=EE	
91	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=DE and primary's AFC Match Code=UE	
92	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=DE and primary's AFC Match Code=GE	
93	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=DE and primary's AFC Match Code=MU	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
94	The system shall increase the change count by 1 if the Census record has AFC Match Code=CE and HICODE=GE	
95	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=CE	
96	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=DE and primary's AFC Match Code=M	
97	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=DE and primary's AFC Match Code=CE	
98	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=DE and primary's AFC Match Code=EE	
99	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=DE and primary's AFC Match Code=UE	
100	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=DE and primary's AFC Match Code=GE	
101	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=DE and primary's AFC Match Code=MU	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
102	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=UE	
103	The system shall increase the change count by 1 if the Census record has AFC Match Code=EE and HICODE=GE	
104	The system shall increase the change count by 1 if the Census record has AFC Match Code=DE and HICODE=M	
105	The system shall increase the change count by 1 if the Census record has AFC Match Code=DE and HICODE=CE	
106	The system shall increase the change count by 1 if the Census record has AFC Match Code=DE and HICODE=EE	
107	The system shall increase the change count by 1 if the Census record has AFC Match Code=DE and HICODE=UE	
108	The system shall increase the change count by 1 if the Census record has AFC Match Code=DE and HICODE=GE	
109	The system shall increase the change count by 1 if the Census record has AFC Match Code=DE and HICODE=MU	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
110	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=EE	
111	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=DE and primary's AFC Match Code=M	
112	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=DE and primary's AFC Match Code=CE	
113	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=DE and primary's AFC Match Code=EE	
114	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=DE and primary's AFC Match Code=UE	
115	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=DE and primary's AFC Match Code=GE	
116	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=DE and primary's AFC Match Code=MU	
117	The system shall increase the change count by 1 if the Census record has AFC Match Code=UE and HICODE=GE	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
118	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=CE	
119	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=EE	
120	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=DE and primary's AFC Match Code=M	
121	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=DE and primary's AFC Match Code=CE	
122	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=DE and primary's AFC Match Code=EE	
123	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=DE and primary's AFC Match Code=UE	
124	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=DE and primary's AFC Match Code=GE	
125	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=DE and primary's AFC Match Code=MU	

AFU Clerk QA Logic
records that add to the change count

Table 9.1

Requirement Number	Requirement	Source/Notes
126	The system shall increase the change count by 1 if the Census record has AFC Match Code=GE and HICODE=UE	
127	The system shall increase the change count by 1 if the Census record has AFC Match Code=MU and HICODE=DE and primary's AFC Match Code=M	
128	The system shall increase the change count by 1 if the Census record has AFC Match Code=MU and HICODE=DE and primary's AFC Match Code=CE	
129	The system shall increase the change count by 1 if the Census record has AFC Match Code=MU and HICODE=DE and primary's AFC Match Code=EE	
130	The system shall increase the change count by 1 if the Census record has AFC Match Code=MU and HICODE=DE and primary's AFC Match Code=UE	
131	The system shall increase the change count by 1 if the Census record has AFC Match Code=MU and HICODE=DE and primary's AFC Match Code=GE	
132	The system shall increase the change count by 1 if the Census record has AFC Match Code=MU and HICODE=DE and primary's AFC Match Code=MU	

Table 9.2 : AFU Clerical codes vs tech or analyst HICODE, records that do not contribute to the change count. See DSSD Census 2000 Procedures and Operations Memorandum Series, Chapter S-QA-09d3, MaRCS Specifications for Quality Assurance (QA) for Housing Unit Matching, draft 3 Attachment A, tables 3 and 4.

<p style="text-align: center;">AFU Clerk QA Logic records that do not add to the change count</p> <p>Table 9.2</p>		
Requirement Number	Requirement	Source/Notes
1	The system shall not increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = M and AFCCID eq HICID	S-QA-09d3 ACE units
2	The system shall not increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = MU and AFCCID eq HICID	
3	The system shall not increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = MU and AFCCID ne HICID	
4	The system shall not increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code=DI	
5	The system shall not increase the change count by 1 if ACE record has AFC Match Code = M and HICODE = DI and primary's AFC Match Code=RV	
6	The system shall not increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = CI	
7	The system shall not increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = UI	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
8	The system shall not increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = DI and primary's AFC Match Code=DI	
9	The system shall not increase the change count by 1 if ACE record has AFC Match Code = CI and HICODE = DI and primary's AFC Match Code=RV	
10	The system shall not increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = ZI	
11	The system shall not increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code=DI	
12	The system shall not increase the change count by 1 if ACE record has AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code=RV	
13	The system shall not increase the change count by 1 if ACE record has AFC Match Code = DI and HICODE = DI	
14	The system shall not increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = CI	
15	The system shall not increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code=DI	
16	The system shall not increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = DI and primary's AFC Match Code=RV	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
17	The system shall not increase the change count by 1 if ACE record has AFC Match Code = UI and HICODE = UI	
18	The system shall not increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = GI	
19	The system shall not increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = DI and primary's AFC Match Code=DI	
20	The system shall not increase the change count by 1 if ACE record has AFC Match Code = GI and HICODE = DI and primary's AFC Match Code=RV	
21	The system shall not increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = M and AFCCID eq HICID	
22	The system shall not increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = M and AFCCID ne HICID	
23	The system shall not increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code=DI	
24	The system shall not increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = DI and primary's AFC Match Code=RV	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
25	The system shall not increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = MU and AFCCID eq HICID	
26	The system shall not increase the change count by 1 if ACE record has AFC Match Code = MU and HICODE = MU and AFCCID ne HICID	
27	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = M	
28	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = CI	
29	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = ZI	
30	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = DI	
31	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = UI	
32	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = GI	
33	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = MU	
34	The system shall not increase the change count by 1 if ACE record has AFC Match Code = RV and HICODE = ZM	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
35	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = M	
36	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = CI	
37	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = ZI	
38	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = DI	
39	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = UI	
40	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = GI	
41	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = MU	
42	The system shall not increase the change count by 1 if ACE record has AFC Match Code = blank and HICODE = ZM	
43	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE = M and linked to same ACE unit	Census units
44	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE = M and linked to different ACE unit	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
45	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE = MU and linked to the same ACE unit	
46	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE = MU and linked to different ACE unit	
47	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE =CE	
48	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE =UE.	
49	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE =EE	
50	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE =GE	
51	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE = DE and primary's AFC Match Code=DE	
52	The system shall not increase the change count by 1 if Census record has AFC Match Code = M and HICODE = DE and primary's AFC Match Code=RV	
53	The system shall not increase the change count by 1 if Census record has AFC Match Code = CE and HICODE = M	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
54	The system shall not increase the change count by 1 if Census record has AFC Match Code = CE and HICODE = CE	
55	The system shall not increase the change count by 1 if Census record has AFC Match Code = CE and HICODE = UE	
56	The system shall not increase the change count by 1 if Census record has AFC Match Code = CE and HICODE = MU	
57	The system shall not increase the change count by 1 if Census record has AFC Match Code =CE and HICODE = DE and primary's AFC Match Code=DE	
58	The system shall not increase the change count by 1 if Census record has AFC Match Code = CE and HICODE = DE and primary's AFC Match Code=RV	
59	The system shall not increase the change count by 1 if Census record has AFC Match Code = EE and HICODE = M	
60	The system shall not increase the change count by 1 if Census record has AFC Match Code = EE and HICODE = EE	
61	The system shall not increase the change count by 1 if Census record has AFC Match Code = EE and HICODE = MU	
62	The system shall not increase the change count by 1 if Census record has AFC Match Code = EE and HICODE = DE and primary's AFC Match Code=DE	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
63	The system shall not increase the change count by 1 if Census record has AFC Match Code = EE and HICODE = DE and primary's AFC Match Code=RV	
64	The system shall not increase the change count by 1 if Census record has AFC Match Code = DE and HICODE = DE	
65	The system shall not increase the change count by 1 if Census record has AFC Match Code = UE and HICODE = M	
66	The system shall not increase the change count by 1 if Census record has AFC Match Code = UE and HICODE = CE	
67	The system shall not increase the change count by 1 if Census record has AFC Match Code = UE and HICODE = DE and primary's AFC Match Code=DE	
68	The system shall not increase the change count by 1 if Census record has AFC Match Code = UE and HICODE = DE and primary's AFC Match Code=RV	
69	The system shall not increase the change count by 1 if Census record has AFC Match Code = UE and HICODE = UE	
70	The system shall not increase the change count by 1 if Census record has AFC Match Code = UE and HICODE = MU	
71	The system shall not increase the change count by 1 if Census record has AFC Match Code = GE and HICODE = M	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
72	The system shall not increase the change count by 1 if Census record has AFC Match Code = GE and HICODE = GE	
73	The system shall not increase the change count by 1 if Census record has AFC Match Code = GE and HICODE = DE and primary's AFC Match Code=DE	
74	The system shall not increase the change count by 1 if Census record has AFC Match Code = GE and HICODE = DE and primary's AFC Match Code=RV	
75	The system shall not increase the change count by 1 if Census record has AFC Match Code = GE and HICODE = MU	
76	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE = M and linked to same ACE record	
77	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE = M and linked to different ACE record	
78	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE =CE	
79	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE =EE	
80	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE =UE	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
81	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE =GE	
82	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE = DE and primary's AFC Match Code=DE	
83	The system shall not increase the change count by 1 if Census record has AFC MatchCode = MU and HICODE = DE and primary's AFC Match Code=RV	
84	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE = MU and linked to same ACE unit	
85	The system shall not increase the change count by 1 if Census record has AFC Match Code = MU and HICODE = MU and linked to different ACE unit	
86	The system shall not increase the change count by 1 if Census record has AFC Match Code = RV and HICODE = M	
87	The system shall not increase the change count by 1 if Census record has AFC Match Code = RV and HICODE = CE	
88	The system shall not increase the change count by 1 if Census record has AFC Match Code = RV and HICODE = EE	
89	The system shall not increase the change count by 1 if Census record has AFC Match Code = RV and HICODE = DE	

AFU Clerk QA Logic
records that do not add to the change count

Table 9.2

Requirement Number	Requirement	Source/Notes
90	The system shall not increase the change count by 1 if Census record has AFC Match Code = RV and HICODE = UE	
91	The system shall not increase the change count by 1 if Census record has AFC Match Code = RV and HICODE = GE	
92	The system shall not increase the change count by 1 if Census record has AFC Match Code = RV and HICODE = MU	
93	The system shall not increase the change count by 1 if Census record has AFC Match Code = blank and HICODE = M	
94	The system shall not increase the change count by 1 if Census record has AFC Match Code = blank and HICODE = CE	
95	The system shall not increase the change count by 1 if Census record has AFC Match Code = blank and HICODE = EE	
96	The system shall not increase the change count by 1 if Census record has AFC Match Code = blank and HICODE = DE	
97	The system shall not increase the change count by 1 if Census record has AFC Match Code = blank and HICODE = UE	
98	The system shall not increase the change count by 1 if Census record has AFC Match Code = blank and HICODE = GE	
99	The system shall not increase the change count by 1 if Census record has AFC Match Code = blank and HICODE = MU	

Table 9.3: Update Clerk Table

The following table documents the test plan for the Make Sampling Decisions sections from the Gunnison HU MaRCS Software specification, Chapter 2.4.3 p.2-24 - 2-25.

The expected results in these tables will either be displayed on the Monitor User Proficiency screen (when counts and percents of changes are expected) or will be evident by the results of the next stage logic.

AFU Clerk Logic Table 9.3		
Requirement Number	Requirement	Source/Notes
1	Add records worked in the cluster to AFU Full Total Records	Gunnison's HU MaRCS Software Specifications
2	Add records worked in the cluster to AFU Last Total Records	
3	Add Change Count to AFU Full Changes	
4	Add Change Count to AFU Last Changes	
5	Calculate AFU Full % Changes = AFU Full Changes/AFU Full Total Records	
6	Calculate AFU Last % Changes = AFU Last Changes/AFU Last Total Records	
7	If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is less than or equal to the Maximum change rate, the system shall: change the sampling approval flag = 1 set Last total records = 0 reset the Last Changes = 0 reset the Last % changes = 0	

**AFU Clerk Logic
Table 9.3**

8	<p>If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is greater than the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
9	<p>If the Sample Approval Flag = 0 and the Last Total Records is less than the minimum records worked and reviewed, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
10	<p>If the Sample Approval Flag = 1 and the Last total records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is greater than the Maximum change rate, the system shall: change the sampling approval flag = 0 set Last Total Records = 0 reset the Last Changes = 0 reset the Last % Changes = 0</p>	
11	<p>If the Sample Approval Flag = 1 and the Last Total Records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is less than or equal to the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	

AFU Clerk Logic Table 9.3		
12	<p>If the Sample Approval Flag = 1 and the Last total records is less than the minimum records worked and reviewed for subsequent sampling re-evaluation, the system shall not change any of the counts or flags.</p> <p>The Sample Approval Flag, BFU Last total records, BFU Last Changes, and the BFU Last % changes remain the same</p>	

Section 10 AFU Tech QA Logic

Table 10.1: This table documents the testing of the AFU Tech QA logic. This corresponds to the specifications in the Gunnison HU MaRCS Software Specifications, chapter 2.4.4.

<p style="text-align: center;">AFU Tech QA Logic records that add to the change count</p> <p>Table 10.1</p>		
Requirement Number	Requirement	Source/Notes
1	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = CI	Gunnison HU MaRCS Software Specifications, chapter 2.4.4.
2	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = ZI	
3	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE= UI	
4	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE= GI	
5	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE=ZM	
6	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE=M and AFTCID ne blank and AFTCID ne HICID	
6a	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE=M and AFTCID = blank and AFCCID ne blank and AFCCID ne HICID	
7	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE=M and AFTCID = blank and AFCCID=blank and BFACID ne blank and BFACID ne HICID	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
8	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = M and AFTCID = blank and AFCCID=blank and BFACID=blank and BFTCID ne blank and BFTCID ne HICID	
9	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE=M and AFTCID = blank and AFCCID=blank and BFACID = blank and BFTCID = blank and BFCCID ne blank and BFCCID ne HICID	
10	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE= M and AFTCID = blank and AFCCID=blank and BFACID = blank and BFTCID= blank and BFCCID = blank and CMCID ne HICID	
11	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code =M	
12	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code = CI	
13	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code = ZI	
14	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code = UI	
15	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code = GI	
16	The system shall increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code = MU	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
17	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE= M	
18	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = ZI	
19	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = GI	
20	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = MU	
21	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = ZM	
22	The system shall increase the change count by 1 if ACE record has AFT Match Code =CI and HICODE = DI and primary's AFT Match Code =M	
23	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = DI and primary's AFT Match Code = CI	
24	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = DI and primary's AFT Match Code = ZI	
25	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = DI and primary's AFT Match Code = UI	
26	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = DI and primary's AFT Match Code = GI	
27	The system shall increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = DI and primary's AFT Match Code = MU	
28	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = M	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
29	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE= CI	
30	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE=UI	
31	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE=GI	
32	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE=MU	
33	The system shall increase the change count by 1 if ACE record has AFT Match Code =ZI and HICODE=ZM	
34	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code =M	
35	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code = CI	
36	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code = ZI	
37	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code = UI	
38	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code = GI	
39	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code = MU	
40	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = M	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
41	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE= ZI	
42	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE=GI	
43	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE=MU	
44	The system shall increase the change count by 1 if ACE record has AFT Match Code =UI and HICODE=ZM	
45	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code =M	
46	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code = CI	
47	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code = ZI	
48	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code = UI	
49	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code = GI	
50	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code = MU	
51	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = M	
52	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE= CI	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
53	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE=ZI	
54	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE=UI	
55	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE=MU	
56	The system shall increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE=ZM	
57	The system shall increase the change count by 1 if ACE record has AFT Match Code =GI and HICODE = DI and primary's AFT Match Code =M	
58	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = DI and primary's AFT Match Code = CI	
59	The system shall increase the change count by 1 if ACE record has AFT Match Code =GI and HICODE = DI and primary's AFT Match Code = ZI	
60	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = DI and primary's AFT Match Code = UI	
61	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = DI and primary's AFT Match Code = GI	
62	The system shall increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = DI and primary's AFT Match Code = MU	
63	The system shall increase the change count by 1 if ACE record has AFT Match Code =DI and HICODE=M	
64	The system shall increase the change count by 1 if ACE record has AFT Match Code =DI and HICODE=CI	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
65	The system shall increase the change count by 1 if ACE record has AFT Match Code =DI and HICODE=ZI	
66	The system shall increase the change count by 1 if ACE record has AFT Match Code =DI and HICODE=UI	
67	The system shall increase the change count by 1 if ACE record has AFT Match Code =DI and HICODE=GI	
68	The system shall increase the change count by 1 if ACE record has AFT Match Code =DI and HICODE=MU	
69	The system shall increase the change count by 1 if ACE record has AFT Match Code =DI and HICODE=ZM	
70	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = CI	
71	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE=ZI	
72	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE=UI	
73	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE=GI	
74	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE=ZM	
75	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code =M	
76	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code = CI	
77	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code = ZI	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
78	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code = UI	
79	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code = GI	
80	The system shall increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code = MU	
81	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = M	
82	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = CI	
83	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE=ZI	
84	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE=UI	
85	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE=GI	
86	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE=MU	
87	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code =M	
88	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code = CI	
89	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code = ZI	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
90	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code = UI	
91	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code = GI	
92	The system shall increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code = MU	
93	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = CI	blank tech - ACE
94	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = ZI	
95	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE= UI	
96	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE= GI	
97	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE=ZM	
98	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE=M and AFCCID ne blank and AFCCID ne HICID	
99	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE=M and AFCCID=blank and BFACID ne blank and BFACID ne HICID	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
100	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = M and AFCCID=blank and BFACID=blank and BFTCID ne blank and BFTCID ne HICID	
101	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE=M and AFCCID=blank and BFACID = blank and BFTCID = blank and BFCCID ne blank and BFCCID ne HICID	
102	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE= M and AFCCID=blank and BFACID = blank and BFTCID= blank and BFCCID = blank and CMCID ne HICID	
103	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = DI and primarys AFC Match Code is not DI or RV and primary's AFT Match Code is not DI or RV	note: primary's AFC=M, CI, ZI, UI, GI, MU, blank AFT=M, CI, ZI, UI, GI, MU, ZM, blank
104	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE= M	
105	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = ZI	
106	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = GI	
107	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = MU	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
108	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = ZM	
109	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFC Match Code is not DI or RV and primary's AFT Match Code is not DI or RV	note: primary's AFC=M,CI, ZI, UI, GI, MU, blank AFT=M,CI, ZI, UI, GI, MU, ZM, blank
110	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = M	
111	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE= CI	
112	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE=UI	
113	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE=GI	
114	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE=MU	
115	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE=ZM	
116	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = DI and primary's AFC Match Code is not DI or RV and primary's AFT Match Code is not DI or RV	note: primary's AFC=M,CI, ZI, UI, GI, MU, blank AFT=M,CI, ZI, UI, GI, MU, ZM, blank

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
117	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = M	
118	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE= ZI	
119	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE=GI	
120	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE=MU	
121	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE=ZM	
122	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = DI and primary's AFC Match Code is not DI or RV and primary's AFT Match Code is not DI or RV	note: primary's AFC=M, CI, ZI, UI, GI, MU, blank AFT=M, CI, ZI, UI, GI, MU, ZM, blank
123	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE = M	
124	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE= CI	
125	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE=ZI	
126	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE=UI	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
127	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE=MU	
128	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE=ZM	
129	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE = DI and primary's AFC Match Code is not DI or RV and primary's AFT Match Code is not DI or RV	note: primary's AFC=M, CI, ZI, UI, GI, MU, blank AFT=M, CI, ZI, UI, GI, MU, ZM, blank
130	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE=M	
131	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE=CI	
132	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE=ZI	
133	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE=UI	
134	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE=GI	
135	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE=MU	
136	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE=ZM	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
137	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = CI	
138	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE=ZI	
139	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE=UI	
140	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE=GI	
141	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE=ZM	
142	The system shall increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and AFC Match Code = MU and HICODE = DI and primary's AFC Match Code is not DI or RV and primary's AFT Match Code is not DI or RV	note: primary's AFC=M, CI, ZI, UI, GI, MU, blank AFT=M, CI, ZI, UI, GI, MU, ZM, blank
143	The system shall increase the change count by 1 if the Census record has AFT Match Code=M and HICODE=DE and primary's AFT Match Code=M	census units
144	The system shall increase the change count by 1 if the Census record has AFT Match Code=M and HICODE=DE and primary's AFT Match Code=CE	
145	The system shall increase the change count by 1 if the Census record has AFT Match Code=M and HICODE=DE and primary's AFT Match Code=EE	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
146	The system shall increase the change count by 1 if the Census record has AFT Match Code=M and HICODE=DE and primary's AFT Match Code=UE	
147	The system shall increase the change count by 1 if the Census record has AFT Match Code=M and HICODE=DE and primary's AFT Match Code=GE	
148	The system shall increase the change count by 1 if the Census record has AFT Match Code=M and HICODE=DE and primary's AFT Match Code=MU	
149	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=EE	
150	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=DE and primary's AFT Match Code=M	
151	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=DE and primary's AFT Match Code=CE	
152	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=DE and primary's AFT Match Code=EE	
153	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=DE and primary's AFT Match Code=UE	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
154	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=DE and primary's AFT Match Code=GE	
155	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=DE and primary's AFT Match Code=MU	
156	The system shall increase the change count by 1 if the Census record has AFT Match Code=CE and HICODE=GE	
157	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=CE	
158	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=DE and primary's AFT Match Code=M	
159	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=DE and primary's AFT Match Code=CE	
160	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=DE and primary's AFT Match Code=EE	
161	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=DE and primary's AFT Match Code=UE	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
162	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=DE and primary's AFT Match Code=GE	
163	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=DE and primary's AFT Match Code=MU	
164	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=UE	
165	The system shall increase the change count by 1 if the Census record has AFT Match Code=EE and HICODE=GE	
167	The system shall increase the change count by 1 if the Census record has AFT Match Code=DE and HICODE=M	
168	The system shall increase the change count by 1 if the Census record has AFT Match Code=DE and HICODE=CE	
169	The system shall increase the change count by 1 if the Census record has AFT Match Code=DE and HICODE=EE	
170	The system shall increase the change count by 1 if the Census record has AFT Match Code=DE and HICODE=UE	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
171	The system shall increase the change count by 1 if the Census record has AFT Match Code=DE and HICODE=GE	
172	The system shall increase the change count by 1 if the Census record has AFT Match Code=DE and HICODE=MU	
173	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=EE	
174	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=DE and primary's AFT Match Code=M	
175	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=DE and primary's AFT Match Code=CE	
176	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=DE and primary's AFT Match Code=EE	
177	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=DE and primary's AFT Match Code=UE	
178	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=DE and primary's AFT Match Code=GE	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
179	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=DE and primary's AFT Match Code=MU	
180	The system shall increase the change count by 1 if the Census record has AFT Match Code=UE and HICODE=GE	
181	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=CE	
182	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=EE	
183	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=DE and primary's AFT Match Code=M	
184	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=DE and primary's AFT Match Code=CE	
185	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=DE and primary's AFT Match Code=EE	
186	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=DE and primary's AFT Match Code=UE	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
187	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=DE and primary's AFT Match Code=GE	
188	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=DE and primary's AFT Match Code=MU	
189	The system shall increase the change count by 1 if the Census record has AFT Match Code=GE and HICODE=UE	
190	The system shall increase the change count by 1 if the Census record has AFT Match Code=MU and HICODE=DE and primary's AFT Match Code=M	
191	The system shall increase the change count by 1 if the Census record has AFT Match Code=MU and HICODE=DE and primary's AFT Match Code=CE	
192	The system shall increase the change count by 1 if the Census record has AFT Match Code=MU and HICODE=DE and primary's AFT Match Code=EE	
193	The system shall increase the change count by 1 if the Census record has AFT Match Code=MU and HICODE=DE and primary's AFT Match Code=UE	
194	The system shall increase the change count by 1 if the Census record has AFT Match Code=MU and HICODE=DE and primary's AFT Match Code=GE	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
195	The system shall increase the change count by 1 if the Census record has AFT Match Code=MU and HICODE=DE and primary's AFT Match Code=MU	
196	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = DE and primary's AFC Match Code is not DE or RV and primary's AFT Match Code is not DE or RV	blank tech - Census note: primary's AFC=M,CE,EE,DE, UE, GE,MU, blank AFT=M,CE, EE, DE, UE, GE, MU, blank
197	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE= EE	
198	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = GE	
199	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = DE and primary's AFC Match Code is not DE or RV and primary's AFT Match Code is not DE or RV	note: primary's AFC=M,CE,EE,DE, UE, GE,MU, blank AFT=M,CE, EE, DE, UE, GE, MU, blank
200	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE =CE	
201	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE= UE	
202	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE=GE	
203	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE=GI	

AFU Tech QA Logic
records that add to the change count

Table 10.1

Requirement Number	Requirement	Source/Notes
204	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = DE and primarys AFC Match Code is not DE or RV and primary's AFT Match Code is not DE or RV	note: primary's AFC=M,CE,EE,DE, UE, GE,MU, blank AFT=M,CE, EE, DE, UE, GE, MU, blank
205	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = EE	
206	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE= GE	
207	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = DE and primarys AFC Match Code is not DE or RV and primary's AFT Match Code is not DE or RV	note: primary's AFC=M,CE,EE,DE, UE, GE,MU, blank AFT=M,CE, EE, DE, UE, GE, MU, blank
208	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE = CE	
209	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE= EE	
210	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE=UE	
211	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE = DE and primarys AFC Match Code is not DE or RV and primary's AFT Match Code is not DE or RV	note: primary's AFC=M,CE,EE,DE, UE, GE,MU, blank AFT=M,CE, EE, DE, UE, GE, MU, blank
212	The system shall increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = DE and HICODE=M	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
56	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	
57	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=DI	
58	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
59	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = ZI	
60	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=DI	
61	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	

Table 10.2 : AFU Tech codes vs analyst HICODE, records that do not contribute to the change count. See DSSD Census 2000 Procedures and Operations Memorandum Series, Chapter S-QA-09d3, MaRCS Specifications for Quality Assurance (QA) for Housing Unit Matching, draft 3 Attachment A, tables 9, 10, 11 and 12.

<p style="text-align: center;">AFU Tech QA Logic records that do not add to the change count</p> <p>Table 10.2</p>		
Requirement Number	Requirement	Source/Notes
1	The system shall not increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = M and AFTCID eq HICID	S-QA-09d3 ACE units
2	The system shall not increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = MU and AFTCID eq HICID	
3	The system shall not increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = MU and AFTCID ne HICID	
4	The system shall not increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code=DI	
5	The system shall not increase the change count by 1 if ACE record has AFT Match Code = M and HICODE = DI and primary's AFT Match Code=RV	
6	The system shall not increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = CI	
7	The system shall not increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = UI	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
8	The system shall not increase the change count by 1 if ACE record has AFT Match Code =CI and HICODE = DI and primary's AFT Match Code=DI	
9	The system shall not increase the change count by 1 if ACE record has AFT Match Code = CI and HICODE = DI and primary's AFT Match Code=RV	
10	The system shall not increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = ZI	
11	The system shall not increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code=DI	
12	The system shall not increase the change count by 1 if ACE record has AFT Match Code = ZI and HICODE = DI and primary's AFT Match Code=RV	
13	The system shall not increase the change count by 1 if ACE record has AFT Match Code = DI and HICODE = DI	
14	The system shall not increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = CI	
15	The system shall not increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code=DI	
16	The system shall not increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = DI and primary's AFT Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
17	The system shall not increase the change count by 1 if ACE record has AFT Match Code = UI and HICODE = UI	
18	The system shall not increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = GI	
19	The system shall not increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = DI and primary's AFT Match Code=DI	
20	The system shall not increase the change count by 1 if ACE record has AFT Match Code = GI and HICODE = DI and primary's AFT Match Code=RV	
21	The system shall not increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = M and AFTCID eq HICID	
22	The system shall not increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = M and AFTCID ne HICID	
23	The system shall not increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code=DI	
24	The system shall not increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = DI and primary's AFT Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
25	The system shall not increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = MU and AFTCID eq HICID	
26	The system shall not increase the change count by 1 if ACE record has AFT Match Code = MU and HICODE = MU and AFTCID ne HICID	
27	The system shall not increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = ZM	
28	The system shall not increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code=DI	
29	The system shall not increase the change count by 1 if ACE record has AFT Match Code = ZM and HICODE = DI and primary's AFT Match Code=RV	
30	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = M	
31	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = CI	
32	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = ZI	
33	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = DI	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
34	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = UI	
35	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = GI	
36	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = MU	
37	The system shall not increase the change count by 1 if ACE record has AFT Match Code = RV and HICODE = ZM	
38	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = M	
39	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = CI	
40	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = ZI	
41	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = DI	
42	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = UI	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
43	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = GI	
44	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = MU	
45	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = blank and HICODE = ZM	
46	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = M and AFTCID eq HICID	blank tech, ACE units
47	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = MU and AFTCID eq HICID	
48	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = MU and AFTCID ne HICID	
49	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=DI	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
50	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	
51	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=DI	
52	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = M and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
53	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = CI	
54	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = UI	
55	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=DI	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
56	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	
57	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=DI	
58	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = CI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
59	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = ZI	
60	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=DI	
61	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
62	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=DI	
63	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = ZI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
64	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = DI and HICODE = DI	
65	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = CI	
66	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=DI	
67	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
68	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=DI	
69	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
70	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = UI and HICODE = UI	
71	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE = GI	
72	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=DI	
73	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
74	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=DI	
75	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = GI and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
76	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = M and AFTCID eq HICID	
77	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = M and AFTCID ne HICID	
78	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=DI	
79	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = DI and primary's AFT Match Code = DI or primary's AFC Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
80	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=DI	note: check also if primary's AFC is RV or DI and primary's AFT not RV nor DI
81	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = DI and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
82	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = MU and AFTCID eq HICID	
83	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = MU and HICODE = MU and AFTCID ne HICID	
84	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = M	
85	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = CI	
86	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = ZI	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
87	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = DI	
88	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = UI	
89	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = GI	
90	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = MU	
91	The system shall not increase the change count by 1 if ACE record has AFT Match Code = blank and AFC Match Code = RV and HICODE = ZM	
92	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE = M and linked to same ACE unit	Census units
93	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE = M and linked to different ACE unit	
94	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE = MU and linked to the same ACE unit	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
95	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE = MU and linked to different ACE unit	
96	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE =CE	
97	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE =UE	
98	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE =EE	
99	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE =GE	
100	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE = DE and primary's AFT Match Code=DE	
101	The system shall not increase the change count by 1 if Census record has AFT Match Code = M and HICODE = DE and primary's AFT Match Code=RV	
102	The system shall not increase the change count by 1 if Census record has AFT Match Code = CE and HICODE = M	
103	The system shall not increase the change count by 1 if Census record has AFT Match Code = CE and HICODE = CE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
104	The system shall not increase the change count by 1 if Census record has AFT Match Code = CE and HICODE = UE	
105	The system shall not increase the change count by 1 if Census record has AFT Match Code = CE and HICODE = MU	
106	The system shall not increase the change count by 1 if Census record has AFT Match Code = CE and HICODE = DE and primary's AFT Match Code = DE	
107	The system shall not increase the change count by 1 if Census record has AFT Match Code = CE and HICODE = DE and primary's AFT Match Code = RV	
108	The system shall not increase the change count by 1 if Census record has AFT Match Code = EE and HICODE = M	
109	The system shall not increase the change count by 1 if Census record has AFT Match Code = EE and HICODE = EE	
110	The system shall not increase the change count by 1 if Census record has AFT Match Code = EE and HICODE = MU	
111	The system shall not increase the change count by 1 if Census record has AFT Match Code = EE and HICODE = DE and primary's AFT Match Code = DE	
112	The system shall not increase the change count by 1 if Census record has AFT Match Code = EE and HICODE = DE and primary's AFT Match Code = RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
113	The system shall not increase the change count by 1 if Census record has AFT Match Code = DE and HICODE = DE	
114	The system shall not increase the change count by 1 if Census record has AFT Match Code = UE and HICODE = M	
115	The system shall not increase the change count by 1 if Census record has AFT Match Code = UE and HICODE = CE	
116	The system shall not increase the change count by 1 if Census record has AFT Match Code = UE and HICODE = DE and primary's AFT Match Code=DE	
117	The system shall not increase the change count by 1 if Census record has AFT Match Code = UE and HICODE = DE and primary's AFT Match Code=RV	
118	The system shall not increase the change count by 1 if Census record has AFT Match Code = UE and HICODE = UE	
119	The system shall not increase the change count by 1 if Census record has AFT Match Code = UE and HICODE = MU	
120	The system shall not increase the change count by 1 if Census record has AFT Match Code = GE and HICODE = M	
121	The system shall not increase the change count by 1 if Census record has AFT Match Code = GE and HICODE = GE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
122	The system shall not increase the change count by 1 if Census record has AFT Match Code = GE and HICODE = DE and primary's AFT Match Code=DE	
123	The system shall not increase the change count by 1 if Census record has AFT Match Code = GE and HICODE = DE and primary's AFT Match Code=RV	
124	The system shall not increase the change count by 1 if Census record has AFT Match Code = GE and HICODE = MU	
125	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE = M and linked to same ACE record	
126	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE = M and linked to different ACE record	
127	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE =CE	
128	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE =EE	
129	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE =UE	
130	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE =GE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
131	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE = DE and primary's AFT Match Code=DE	
132	The system shall not increase the change count by 1 if Census record has AFT MatchCode = MU and HICODE = DE and primary's AFT Match Code=RV	
133	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE = MU and linked to same ACE unit	
134	The system shall not increase the change count by 1 if Census record has AFT Match Code = MU and HICODE = MU and linked to different ACE unit	
135	The system shall not increase the change count by 1 if Census record has AFT Match Code = RV and HICODE = M	
136	The system shall not increase the change count by 1 if Census record has AFT Match Code = RV and HICODE = CE	
137	The system shall not increase the change count by 1 if Census record has AFT Match Code = RV and HICODE = EE	
138	The system shall not increase the change count by 1 if Census record has AFT Match Code = RV and HICODE = DE	
139	The system shall not increase the change count by 1 if Census record has AFT Match Code = RV and HICODE = UE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
140	The system shall not increase the change count by 1 if Census record has AFT Match Code = RV and HICODE = GE	
141	The system shall not increase the change count by 1 if Census record has AFT Match Code = RV and HICODE = MU	
142	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = blank and HICODE = M	
143	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = blank and HICODE = CE	
144	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = blank and HICODE = EE	
145	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = blank and HICODE = DE	
146	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = blank and HICODE = UE	
147	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = blank and HICODE = GE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
148	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = blank and HICODE = MU	
149	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = M and linked to same ACE unit	Tech blank, Census units
150	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = M and linked to different ACE unit	
151	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = MU and linked to the same ACE unit	
152	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = MU and linked to different ACE unit	
153	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = CE	
154	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = UE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
155	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE =EE	
156	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE =GE	
157	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code=DE	note: check also if primary's AFC is RV or DE and primary's AFT not RV nor DE
158	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code=RV	
159	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=DE	
160	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = M and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
161	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = M	
162	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = CE	
163	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = UE	
164	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = MU	
165	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code=DE	note: check also if primary's AFC is RV or DE and primary's AFT not RV nor DE
166	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code= RV	
167	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=DE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
168	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = CE and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
169	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = M	
170	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = EE	
171	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = MU	
172	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code=DE	note: check also if primary's AFC is RV or DE and primary's AFT not RV nor DE
173	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code=RV	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
174	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=DE	
175	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = EE and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
176	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = DE and HICODE = DE	
177	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = M	
178	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = CE	
179	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code=DE	note: check also if primary's AFC is RV or DE and primary's AFT not RV nor DE

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
180	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = DE and primary's AFT Match Code = DE and primary's AFC Match Code= RV	
181	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=DE	
182	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = DE and primary's AFT Match Code = RV and primary's AFC Match Code=RV	
183	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = UE	
184	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = UE and HICODE = MU	
185	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE = M	
186	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE = GE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
187	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE = DE and primary's AFT Match Code = blank and AFC Match Code=DE	
188	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE = DE and primary's AFT Match Code = blank and AFC Match Code=RV	
189	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = GE and HICODE = MU	
190	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE = M and linked to same ACE record	
191	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE = M and linked to different ACE record	
192	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE =CE	
193	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE =EE	

AFU Tech QA Logic
records that do not add to the change count

Table 10.2

Requirement Number	Requirement	Source/Notes
194	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE =UE	
195	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE =GE	
196	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE = DE and primary's AFT Match Code = blank and AFC Match Code=DE	
197	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC MatchCode = MU and HICODE = DE and primary's AFT Match Code = blank and AFC Match Code=RV	
198	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE = MU and linked to same ACE unit	
199	The system shall not increase the change count by 1 if Census record has AFT Match Code = blank and AFC Match Code = MU and HICODE = MU and linked to different ACE unit	

Table 10.3: Update Tech Table

The following table documents the test plan for the Make Sampling Decisions sections from the Gunnison HU MaRCS Software specification, Chapter 2.4.4 p.2-28 - 2-29.

The expected results in these tables will either be displayed on the Monitor User Proficiency screen (when counts and percents of changes are expected) or will be evident by the results of the next stage logic.

AFU Tech Logic		
Table 10.3		
Requirement Number	Requirement	Source/Notes
1	Add records worked in the cluster to AFU Full Total Records	Gunnison's HU MaRCS Software Specifications
2	Add records worked in the cluster to AFU Last Total Records	
3	Add Change Count to AFU Full Changes	
4	Add Change Count to AFU Last Changes	
5	Calculate AFU Full % Changes = AFU Full Changes/AFU Full Total Records	
6	Calculate AFU Last % Changes = AFU Last Changes/AFU Last Total Records	
7	If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is less than or equal to the Maximum change rate, the system shall: change the sampling approval flag = 1 set Last total records = 0 reset the Last Changes = 0 reset the Last % changes = 0	

AFU Tech Logic

Table 10.3

8	<p>If the Sample Approval Flag = 0 and the Last total records is greater than the minimum records worked and reviewed and the Last % Changes is greater than the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
9	<p>If the Sample Approval Flag = 0 and the Last Total Records is less than the minimum records worked and reviewed, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	
10	<p>If the Sample Approval Flag = 1 and the Last total records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is greater than the Maximum change rate, the system shall: change the sampling approval flag = 0 set Last Total Records = 0 reset the Last Changes = 0 reset the Last % Changes = 0</p>	
11	<p>If the Sample Approval Flag = 1 and the Last Total Records is greater than the minimum records worked and reviewed for subsequent sampling re-evaluation and the Last % Changes is less than or equal to the Maximum change rate, the system shall not change any of the counts or flags. The Sample Approval Flag, Last Total Records, Last Changes, and the Last % Changes remain the same</p>	

AFU Tech Logic		
Table 10.3		
12	<p>If the Sample Approval Flag = 1 and the Last total records is less than the minimum records worked and reviewed for subsequent sampling re-evaluation, the system shall not change any of the counts or flags.</p> <p>The Sample Approval Flag, BFU Last total records, BFU Last Changes, and the BFU Last % changes remain the same</p>	